

PhenoCode Signature Activated TIL Status Human Protein Panel

Catalog # PCSPP003

PhenoCode™ Signature Activated TIL Status Human Protein Panel is a multi-component kit. Safety Data Sheets are provided in this document for each component supplied in the kit.

Component Number	Component Description
200035	1X Antibody Diluent / Block
232108	N Blocker
232110	J Blocker
FP1490	10X Spectral DAPI
FP1609	1X Plus Automation Amplification Diluent
240229	Anti-Hu Pan-Cytokeratin(AKYP0053)-BX066
240227	Anti-Hu CD3e(AKYP0125)-BX080
240232	Anti-Hu Ki67(AKYP0126)-BX047
240074S	Anti-Hu Granzyme B(AKYP0086)-BX041
232151S	Anti-Hu CD8 (AKYP0028)-BX026
PCSA1001	PhenoCode Signature Diluent
OP-001000	Opal 480 Reagent
OP-001003	Opal 570 Reagent
OP-001004	Opal 620 Reagent
OP-001006	Opal 690 Reagent
OP-001007	Opal TSA-DIG Reagent
OP-001008	Opal 780 Reagent
200045	DMSO
232111	S Blocker
200039	PhenoCode Signature Blocker 1
200040	PhenoCode Signature Blocker 5
PCSD066	HRP-HX066 PhenoCode Signature Detector
PCSD080	HRP-HX080 PhenoCode Signature Detector
PCSD047	HRP-HX047 PhenoCode Signature Detector
PCSD041	HRP-HX041 PhenoCode Signature Detector
PCSD026	HRP-HX026 PhenoCode Signature Detector

SAFETY DATA SHEET
SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier : 1X Antibody Diluent / Block

Product Code(s) : ARD1001EA, 200035

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
 Use pattern: professional use
 Restrictions on use: Research and development only.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
 6th Floor
 Marlborough, MA, USA
 01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC -United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Mixture

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.	Not applicable	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
 May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
 Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
: Use media suitable to the surrounding fire such as water fog or fine spray, alcoholfoams, carbon dioxide and dry chemical.

Unsuitable extinguishing media
: None known.

5.2 Special hazards arising from the substance or mixture

: Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters
: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures
: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

: Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>

No hazardous ingredients a	bove concentration cut-offs Not applicable.	European Union (OEL)	Not applicable.
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<u>Biological Exposure Indices:</u>
No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

: Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location.
Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid.
Colour : Clear
Odour : No odour.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Odour threshold : No information available.

pH : 7.45

Flash point : None. (>90% water)

Flashpoint (Method) : No information available.

Lower flammable limit (% by vol.)
: No information available.

Upper flammable limit (% by vol.)
: No information available.

Auto-ignition temperature
: No information available.

Decomposition temperature
: No information available.

Oxidizing properties : None.

Explosive properties : Not explosive

Initial boiling point and boiling range
: >100°C (based on ingredients)

Melting/Freezing point : 0°C

Relative density : 1

Solubility in water : Soluble

Other solubility(ies) : No information available.

Vapour pressure : No information available.

Vapour density : No information available.

Partition coefficient: n-octanol/water
: No information available.

Viscosity : No information available.

Evaporation rate (BuAe = 1)
: No information available.

Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)
: No information available.

Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions
: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials
: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

10.6 Hazardous decomposition products
: None known.

In the event of fire the following can be released: Carbon oxides; Nitrogen oxides(NOx); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds

11.1 Information on Toxicological effects:

Acute toxicity

Skin corrosion/Irritation

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended. product is not considered as being an acutely toxic, chemical.

: According to the classification criteria of the European Union, this product is not considered as being a skin irritant.

Serious eye damage/irritation

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation

: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
 According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.

Germ cell mutagenicity

: Contains no ingredient listed as a mutagen.

Carcinogenicity

: Contains no ingredient listed as a carcinogen.

Reproductive toxicity

: Contains no ingredient listed as toxic to reproduction.

STOT-single exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard

: According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

Routes of exposure

: Inhalation; Skin contact; Eye contact; Ingestion

Effects of acute exposure

: Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data

: No data is available on the product itself.

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u> <u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	Not applicable.	Not applicable.	Not applicable.

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.
 No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:




Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 CAS: Chemical Abstract Services
 CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
 EC: European Community
 EC50: Effective Concentration 50%
 ECHA: European Chemicals Agency
 EU: European Union
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 ICAO: International Civil Aviation Organisation
 IMDG: International Maritime Dangerous Goods
 LC: Lethal Concentration
 LD: Lethal Dose
 NOEC: No observable effect concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: National occupational exposure limits
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SCBA: Self-Contained Breathing Apparatus
 STEL: Short Term Exposure Limit

Information Source : 1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)

: 18/10/2022

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

N Blocker

SDS Revision Date (dd/mm/yyyy): 15/12/2022
 Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : N Blocker

Product Code(s) : 232108

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Consumer use; professional use No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
 6th Floor
 Marlborough, MA, USA
 01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

N Blocker

SDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Water; Buffered saline; Sodium salts; Phosphate salt; BSA; Carboxylic acid; IgG
The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL M-factor, ATE</u>
No hazardous ingredients	N/Av	Not applicable.	Not applicable	Not applicable.	Not applicable	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

N BlockerSDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NOx); Phosphorus compounds; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

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7.3 Specific end use(s) : Reagents for single-step staining of tissue antibodies from the Human and/or Conjugation kit.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
No hazardous ingredients	Not applicable.	European Union (OEL)	Not applicable.

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid.

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Colour	: Clear.
Odour	: No odour.
Odour threshold	: No information available.
pH	: 7.4
Flash point	: None. (> 90% water)
Flashpoint (Method)	: No information available.
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: > 100°C (based on ingredients)
Melting/Freezing point	: No information available.
Relative density	: No information available.
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
10.6 Hazardous decomposition products	

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- : None known.
- In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NO_x); Phosphorus compounds; Hydrogen chloride; Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation** : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself.

See below for individual ingredient acute toxicity data.

Chemical name	LC₅₀(4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
No hazardous ingredients	Not applicable.	Not applicable.	Not applicable.

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11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients	N/Av	Not applicable.	Not applicable.	Not applicable.

12.2 Persistence and degradability : The product itself has not been tested.

12.3 Bioaccumulation potential : The product itself has not been tested.

12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment : This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties : None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

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SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
- Methods of Disposal** : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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SECTION 16. OTHER INFORMATION

Legend	<ul style="list-style-type: none"> : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road CAS: Chemical Abstract Services CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures EC: European Community EC50: Effective Concentration 50% ECHA: European Chemicals Agency EN: European Standard EU: European Union HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association IBC: Intermediate Bulk Container ICAO: International Civil Aviation Organisation IMDG: International Maritime Dangerous Goods Inh: Inhalation LC: Lethal Concentration LD: Lethal Dose NOEC: No observable effect concentration OECD: Organisation for Economic Co-operation and Development OEL: National occupational exposure limits RID: Regulations concerning the International Carriage of Dangerous Goods by Rail RTECS: Registry of Toxic Effects of Chemical Substances SCBA: Self-Contained Breathing Apparatus SDS: Safety Data Sheet STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit
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Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 12/10/2018

Reviewed Date SDS (dd/mm/yyyy) : 15/12/2022

Revision No. : 2

Revision Information : (M)SDS sections updated :All (format change)

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier : J Blocker****Product Code(s) : 232110****1.2 Relevant identified uses of the substance or mixture and uses advised against**

: Consumers; professional use No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:**Akoya Biosciences, Inc.**100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752**Supplier Telephone Number**

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact: customercareemea@akoyabio.com**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements*Hazard pictogram(s)*

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None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:
None.

Signal word:
None required according to Regulation (EC) No. 1272/2008.

Hazard statements:
None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:
None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:
None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:
May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.
PBT assessment:
This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature : DNA.
The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	Not applicable.	No information available.	not hazardous (self classified)	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Immediately flush with plenty of water, while removing contaminated clothing. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

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: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

: Incomplete toxicological data are available for this product.
Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

5.2 Special hazards arising from the substance or mixture

: Not classified as flammable. In the event of fire the following can be released: irritating fumes and smoke .

5.3 Advice for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

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- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Recommended storage temperature: - 20°C

7.3 Specific end use(s)

- : Reagents for iterative cycles of revealing and removing tags. For use in

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
Oligodeoxyribonucleic acid	modified None known.	European Union (OEL)	None.

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

- : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

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: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid.
Colour : Clear.
Odour : No odour.
Odour threshold : No information available.
pH : No information available.
Flash point : No information available.
Flashpoint (Method) : No information available.
Lower flammable limit (% by vol.)
: No information available.
Upper flammable limit (% by vol.)
: No information available.
Auto-ignition temperature
: No information available.
Decomposition temperature
: No information available.
Oxidizing properties : None known.
Explosive properties : Not explosive
Initial boiling point and boiling range
: No information available.
Melting/Freezing point : No information available.
Relative density : No information available.
Solubility in water : Soluble
Other solubility(ies) : No information available.
Vapour pressure : No information available.
Vapour density : No information available.
Partition coefficient: n-octanol/water
: No information available.
Viscosity : No information available.
Evaporation rate (BuAe = 1)
: No information available.
Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.
Volatile organic Compounds (VOC's)
: No information available.
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

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- 10.2 Chemical stability** : Stable under normal conditions.
- 10.3 Possibility of hazardous reactions**
: Hazardous polymerization does not occur.
- 10.4 Conditions to avoid** : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
- 10.5 Incompatible materials**
: None known or reported by the manufacturer.
- 10.6 Hazardous decomposition products**
: None known or reported by the manufacturer.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation**
: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation**
: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Fumes from heated product may irritate respiratory tract. May cause coughing and breathing difficulties.
- Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
- Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself. See below for individual ingredient acute toxicity data.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Oligodeoxyribonucleic acid, modified	No information available.	No information available.	No information available.

11.2 Information on other Hazards

: Incomplete toxicological data are available for this product.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC ₅₀ / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC ₅₀ / 48h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC ₅₀ / 96h or 72h	NOEC / 96h or 72h	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.




SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 16. OTHER INFORMATION

Legend :

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EC: European Community
- EC50: Effective Concentration 50%
- ECHA: European Chemicals Agency
- EN: European Standard
- EU: European Union
- HSDB: Hazardous Substances Data Bank
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- ICAO: International Civil Aviation Organisation
- Inh: Inhalation
- NOEC: No observable effect concentration
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- RTECS: Registry of Toxic Effects of Chemical Substances
- SCBA: Self-Contained Breathing Apparatus
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average
- WEL: Workplace Exposure Limit

Information Source :

1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)
 : 01/10/2018

Reviewed Date SDS (dd/mm/yyyy)
 : 15/12/2022

Revision No. : 2

Revision Information : (M)SDS sections updated :All (format change)

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

J Blocker

SDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

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END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : 10X Spectral DAPI

Product Code(s) : FP1490

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern: professional use
Restrictions on use: Research and development only.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC -United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008. Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Mixture

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.	Not applicable	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NO_x); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

- : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
No hazardous ingredients above concentration cut-offs	Not applicable.	European Union (OEL)	Not applicable.

<u>Biological Exposure Indices:</u>
No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

: Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Clear liquid.
Colour	: Clear
Odour	: No odour.
Odour threshold	: No information available.
pH	: Not available.
Flash point	: None. (> 90% water)
Flashpoint (Method)	: No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: >100°C (based on ingredients)
Melting/Freezing point	: 0°C
Relative density	: 1
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
10.6 Hazardous decomposition products	: None known. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NO _x); Sodium oxides ; Hydrogen chloride; Other unidentified organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation** : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
- Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
- Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself.

See below for individual ingredient acute toxicity data.

Chemical name	LC ₅₀ (4hr) <u>inh, rat</u>	LD ₅₀	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	Not applicable.	Not applicable.	Not applicable.

11.2 Information on other Hazards

- : None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity** : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS




13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION					
<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

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: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EC: European Community
- EC50: Effective Concentration 50%
- ECHA: European Chemicals Agency
- EU: European Union
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Dangerous Goods
- LC: Lethal Concentration
- LD: Lethal Dose
- NOEC: No observable effect concentration
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- SCBA: Self-Contained Breathing Apparatus
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Information Source : 1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. European Chemicals Agency, Classification Legislation, 2010.

Preparation Date (dd/mm/yyyy) : 31/10/2022

Regulation and Procedure :

Not applicable.

Other special considerations for handling : Provide adequate information, instruction, and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : 1X Plus Automation Amplification Diluent

Product Code(s) : FP1609

1.2 Relevant identified uses of the substance or mixture and uses advised against

- : Research and development only.
- Use pattern: professional use
- Refer to restrictions found in REACH Annex XVII item 30.
- Refer to restrictions found in REACH Annex XVII item 75.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr, 6th Floor
 Marlborough, MA, USA 01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

- : +1 (352) 323-3500 (INFOTRAC -United States of America)

1.5 National Contact

- : customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Liquid. Characteristic odor.

Most important hazards:

Causes serious eye irritation. May damage fertility or the unborn child. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This product contains an ingredient that is present on the candidate list SVHC's of Annex XIV of the REACH Regulation 1907/2006/EC.

This product is classified as hazardous in accordance with Regulation (EC) No 1272/2008.

Hazard classification

Serious eye damage/eye irritation - Category 2A; H319

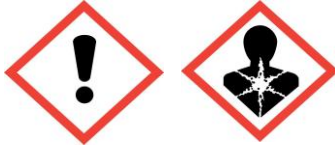
Reproductive Toxicity - Category 1B; H360DF

2.2 Label elements

Hazard pictogram(s)

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Hazardous components which must be listed on the label Sodium borate, Boric acid, Sodium stannate, Hydrogen peroxide.

Signal word

Danger

Hazard statements

H319 - Causes serious eye irritation.
H360FD - May damage fertility. May damage the unborn child.

Precautionary statements

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/clothing and eye/face protection.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists, get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local regulation.

Supplemental information

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:
Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

PBT assessment

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Mixture

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE

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Sodium borate	1330-43-4	215-540-4	Not available	0.1 - 1.0	Repr. 1B; H360Fd	Not applicable.
Boric Acid	10043-35-3	233-139-2	Not available	0.1 - 1.0	Repr. 1B; H360FD	Not applicable.
Stannate (Sn(OH)6²⁻), disodium, (OC-6-11)-	12027-70-2	234-724-5	Not available	0.1 - 1.0	Skin Corr. 1; H314 Eye Dam. 1 H318	Not applicable.
Hydrogen peroxide	7722-84-1	231-765-0	Not available	0.1 - 1.0	Skin Corr. 1A ; H314 Acute Tox. 4 H332; Acute Tox. 4 ;H302 Ox. Liq. 1 H271 Notes: B	SCL: Eye Irrit. 2; H319: 5 % ≤ C < 8 % ATE Oral and Dermal >5000 mg/kg

For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
- Skin contact* : Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning. In the event of fire, the following can be released: Carbon oxides; Nitrogen oxides; Sodium oxides; Hydrogen chloride; Boric acid.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

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Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Absorb material with inert absorbent, and place into labelled containers for disposal. For waste disposal, see Section 13 of the SDS.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing mist or vapor. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles.

7.3 Specific end use(s)

- : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
Sodium borate	N/Av	European Union (OEL)	N/Av
	1 mg/m ³ VME;	France (OEL)	N/Av
	1 mg/m ³ VLA-ED;	Spain (OEL)	N/Av
	1 mg/m ³ TWA;3 mg/m ³ STEL	The United Kingdom (WELs)	N/Av
Boric Acid	N/Av	European Union (OEL)	N/Av
	2 mg/m ³ (TWA) 6 mg/m ³ (STEL)	Belgium (OEL)	(as borate)
	0.5 mg/m ³ (inhalable) (TWA)	Germany (OEL)	(exposure factor 2)

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	2 mg/m ³ (TWA) 6 mg/m ³ (STEL)	Spain (OEL)	Reproductive toxicant
Stannate (Sn(OH)₆2-), disodium, (OC-6-11)-	N/Av	European Union (OEL)	N/Av
Hydrogen peroxide	N/Av	European Union (OEL)	N/Av
	1 ppm TWA; 1.4 mg/m ³ TWA;	Denmark (OEL)	N/Av
	1 ppm TWA; 1.4 mg/m ³ TWA;;	Finland (OEL)	N/Av
	1 ppm VME; 1.5 mg/m ³ VME;	France (OEL)	N/Av
	;0.5 ppm MAK; 0.71 mg/m ³ MAK;0.5 ppm MAK; 0.71 mg/m ³ MAK	Germany (OEL)	N/Av
	1.5 mg/m ³ NDS;4 mg/m ³ NDSh;	Poland (OEL)	N/Av
	1 ppm VLA-ED; 1.4 mg/m ³ VLA-ED;	Spain (OEL)	N/Av
	1 ppm LLV; 1.4 mg/m ³ LLV;;2 ppm CLV; 3 mg/m ³ CLV	Sweden (OEL)	N/Av
	1 ppm TWA; 1.4 mg/m ³ TWA;2 ppm STEL; 2.8 mg/m ³ STEL	The United Kingdom (WELs)	N/Av

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

- : Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Liquid

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Colour	: Clear.
Odour	: Odorless.
Odour threshold	: Not available.
pH	: Not available.
Flash point	: Not available.
Flashpoint (Method)	: Not applicable
Lower flammable limit (% by vol.)	: Not available.
Upper flammable limit (% by vol.)	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Oxidizing properties	: None.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: 100°C
Melting/Freezing point	: 0°C
Relative density	: Not available.
Solubility in water	: Insoluble.
Other solubility(ies)	: Not available.
Vapour pressure	: 23 hPa
Vapour density	: 0.633
Partition coefficient: n-octanol/water	: Not available.
Viscosity	: same as water
Evaporation rate (BuAe = 1)	: Not available.
Particle characteristics	: Not available

9.2 Other Information

Volatiles (% by weight)	: Not available.
Volatile organic Compounds (VOC's)	: Not available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents
10.6 Hazardous decomposition products	: Sodium oxides; Boric acid; Hydrogen chloride; Nitrogen oxides

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation** : Serious eye damage/eye irritation -Category 2A . Causes serious eye irritation.
- Respiratory or skin sensitisation** : Not expected to be a skin or respiratory sensitizer.
- Germ cell mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity** : Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive toxicity** : Reproductive Toxicity - Category 1B. May damage fertility or the unborn child. Boric acid may cause fetotoxic and teratogenic effects at dose which are not maternally toxic, based on animal data.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Ingestion; Skin contact; Eye contact
- Effects of acute exposure** : Inhalation: Mild respiratory irritant

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin contact: Prolonged skin contact may cause skin irritation.

Eye contact: Causes serious eye irritation.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Sodium borate	> 2.04 mg/L (dust) (No mortality)	3225 - 5560 mg/kg	> 2000 mg/kg (No mortality)
Boric Acid	>2.12 mg/L	2660 mg/kg	>2000 mg/kg
Stannate (Sn(OH) ₆ ²⁻), disodium, (OC-6-11)-	N/Av	N/Av	N/Av
Hydrogen peroxide	0.17 mg/L 4 h (no deaths)	1193 mg/kg	>2000 mg/kg

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium borate	1330-43-4	79.7 mg/L (Fathead minnow) (Read-across)	6.4 mg/L/34 days (Zebra fish) (Read-across)	None.
Boric Acid	10043-35-3	79.1mg/L (Fathead minnow)	102 mg/L (Fathead minnow)	None.
Stannate (Sn(OH) ₆ ²⁻), disodium, (OC-6-11)-	12027-70-2	N/Av	N/Av	
Hydrogen peroxide	7722-84-1	16.4mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium borate	1330-43-4	91 mg/L Ceriodaphnia (water flea)	10.8 mg/L (Read-across)	None.
Boric Acid	10043-35-3	102 mg/L (Daphnia magna)	11.2mg/L (Daphnia magna)	None.
Stannate (Sn(OH) ₆ ²⁻), disodium, (OC-6-11)-	12027-70-2	N/Av	N/Av	
Hydrogen peroxide	7722-84-1	2.4mg/L Water flea	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium borate	1330-43-4	52.4 mg/L/72hr (Green algae) (Read-across)	17.5 mg/L/72hr (Read-across)	None.
Boric Acid	10043-35-3	40mg/L (Green algae)	17.5mg/L (Green algae)	None.
Stannate (Sn(OH) ₆ ²⁻), disodium, (OC-6-11)-	12027-70-2	N/Av	N/Av	
Hydrogen peroxide	7722-84-1	N/Av	0.63 mg/L (Green algae)	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

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<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Sodium borate (CAS 1330-43-4)	N/Av	no evidence of bioaccumulation
Boric Acid (CAS 10043-35-3)	0.175	0
Hydrogen peroxide (CAS 7722-84-1)	1.50	no bioaccumulation

12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This product does contain a substance that fulfils the criteria for persistence, but the substance does not fulfil the criteria for bioaccumulation or toxicity.

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:




Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose in accordance with all applicable federal, state, provincial and local regulations.

SECTION 14. TRANSPORTATION INFORMATION

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ADR/RID	None.	not regulated	not regulated	none	
EU ADR/RID Classification Code					
EU ADR / RID Hazard Identification Number					
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) No. 453/2010].

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

Refer to restrictions found in REACH Annex XVII item 30.

Refer to restrictions found in REACH Annex XVII item 75.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances: None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

CAS# 1330-43-4

CAS# 10043-35-3

CAS# 12027-70-2

CAS# 7722-84-1

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

CAS# 1330-43-4

CAS# 10043-35-3

CAS# 12027-70-2

CAS# 7722-84-1

German legislation on water endangering substances VwVwS :Water hazard class (Germany) 1

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 16. OTHER INFORMATION

Legend : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstract Services
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
EC: European Community
EC50: Effective Concentration 50%
ECHA: European Chemicals Agency
EU: European Union
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
LC: Lethal Concentration
LD: Lethal Dose
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
OEL: National occupational exposure limits
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
SCBA: Self-Contained Breathing Apparatus
STEL: Short Term Exposure Limit
TWA: Time Weighted Average

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 21/11/2022

Regulation and Procedure :

Eye irritation; Expert judgement
Reproductive toxicity; Expert judgement

H-phrases (full-text)

H271 May intensify fire; oxidizer.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H332 - Harmful if inhaled.
H360FD - May damage fertility. May damage the unborn child.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

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This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

PhenoCycler™ or Phenolmager Antibody

SDS Revision Date (dd/mm/yyyy): 01/10/2018
 Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : PhenoCycler™ or Phenolmager Antibody

Product Code(s) :

232122	232123	232124	232125	232126	232127	232128	232129	232130	232131
232132	232133	232134	232135	232136	232137	232138	232139	232140	232141
232142	232143	232144	232145	232146	232147	232148	232149	232150	232151
232152	232153	232154	232155	232156	232157	232158	232159	232160	232161
232162	232163	232164	232165	232166	232167	232168	232169	232170	232171
232172	232173	232174	232175	232176	232177	232178	232180	232181	232182
232183	232184	232185	232186	232187	232188	232189	240001	240003	240004
240006	240017	240018	240019	240020	240021	240022	240033	240034	240035
240036	240058	240059	240060	240061	240062	240064	240065	240066	240077
240068	240069	240070	240071	240072	240073	240074	240075	240076	240077
240078	240079	240080	240081	240082	240083	240084	240125	240126	240127
240128	240129	240170	240171	240172	240173	240174	240175	240176	240177
240178	240179	240180	240181	240182	240183	240184	240185	240186	240187
240188	240189	240190	240191	240192	240200	240201	240202	240203	232179
200066	200067	200068	200069	200070	200071	240228	240229	240230	240231
240227	240232	240074S	232151S						

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Validated set of PhenoCycler™ (formerly CODEX®) or Phenolmager-tagged anti-human antibodies ready for use with the PhenoCycler™ (formerly CODEX®) or Phenolmager assay. Used in PhenoCycler™ (formerly CODEX®) MPI or Phenolmager fluidics instrument.

Use pattern: Consumer use; professional use
 No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.
 100 Campus Dr,
 6th Floor
 Marlborough, MA, USA
 01752
Supplier Telephone Number

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: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercaremea@akoyobio.com

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements*Hazard pictogram(s)*

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. May be mildly irritating to skin and respiratory system. Direct eye contact may cause slight or mild, transient irritation. May cause gastrointestinal irritation. In extremely high concentrations, may cause symptoms of central nervous system depression.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Water; glycol; Sodium Salt; Carboxylic acid; Oligodeoxyribonucleic acid, modified; Antibodies; Proteins; Preservatives

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL M-factor, ATE</u>
Ethylene glycol	107-21-1	203-473-3	Not available	4.843	*Acute Tox. 4; H302	ATE oral = 22935.77 mg/kg

*Note: The above CLP Acute toxicity Classifications for the following chemicals are 'Minimum Classifications': Ethylene glycol.

For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : For skin contact, wash with soap and water while removing contaminated clothing. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
May be mildly irritating to skin and respiratory system. May cause coughing and breathing difficulties. Direct skin contact may cause temporary redness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).
Prolonged or repeated ingestion may cause bladder or kidney stones.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

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Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. However, may burn if exposed to extreme heat and flame. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; formaldehyde; Metal oxides; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue and can be dangerous.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

- : Validated set of CODEX tagged anti human antibodies ready for use with the CODEX assay. Used in CODEX MPI fluidics instrument.

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
Ethylene glycol	20 ppm (52 mg/m ³) (TWA) 40 ppm (104 mg/m ³) (STEL)	European Union (OEL)	Possibility of significant uptake through the skin
	20 ppm (52 mg/m ³) (TWA) 40 ppm (104 mg/m ³) (STEL)	France (OEL)	Risk of cutaneous absorption
	10 ppm (26 mg/m ³) (exposure factor 2) (TWA)	Germany (OEL)	Skin notation
	20 ppm (52 mg/m ³) (TWA) 40 ppm (104 mg/m ³) (STEL)	Italy (OEL)	skin - potential for cutaneous absorption
	15 mg/m ³ (TWA) 50 mg/m ³ (STEL)	Poland (OEL)	None.
	20 ppm (52 mg/m ³) (TWA) 40 ppm (104 mg/m ³) (STEL)	Spain (OEL)	skin - potential for cutaneous exposure
	10 ppm (25 mg/m ³) (TWA) 20 ppm (50 mg/m ³) (STEL)	Sweden (OEL)	Skin notation
	10 mg/m ³ (particulate); 20 ppm (52 mg/m ³) (vapour) (TWA) 40 ppm (104 mg/m ³) (vapour) (STEL)	The United Kingdom (WELs)	Potential for cutaneous absorption

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

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Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location.
Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing.
Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Controlo da exposição ambiental

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid.
Colour : Clear.
Odour : No odour.
Odour threshold : No information available.
pH : No information available.
Flash point : No information available.
Flashpoint (Method) : No information available.
Lower flammable limit (% by vol.)
: No information available.
Upper flammable limit (% by vol.)
: No information available.
Auto-ignition temperature
: No information available.
Decomposition temperature
: No information available.
Oxidizing properties : None known.
Explosive properties : Not explosive
Initial boiling point and boiling range
: No information available.
Melting/Freezing point : No information available.
Relative density : No information available.
Solubility in water : Soluble
Other solubility(ies) : No information available.
Vapour pressure : No information available.
Vapour density : No information available.
Partition coefficient: n-octanol/water
: No information available.
Viscosity : No information available.
Evaporation rate (BuAe = 1)
: No information available.

Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

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Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity** : Not normally reactive.**10.2 Chemical stability** : Stable under normal conditions.**10.3 Possibility of hazardous reactions**

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.**10.5 Incompatible materials**

: Strong oxidizing agents (Perchlorates; Permanganates; Iodine pentafluoride; Silver fluoride, etc.); Strong acids; Strong bases; Halogenated compounds

10.6 Hazardous decomposition products

: None known.

In the event of fire the following can be released: Carbon oxides; Metal oxides; formaldehyde; Hydrogen chloride; Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological effects:****Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.**Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.**Serious eye damage/irritation**

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.**Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.**Carcinogenicity** : Contains no ingredient listed as a carcinogen.**Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.**STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.**STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.**Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.**Routes of exposure** : Inhalation; Skin contact; Skin Absorption; Eye contact; Ingestion

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Effects of acute exposure : Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.

Skin contact: May cause mild skin irritation. Direct skin contact may cause temporary redness. Can be absorbed through skin.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause temporary redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Potential Chronic Health Effects

: Prolonged or repeated ingestion may cause bladder or kidney stones.

11.1.1 Acute Toxicity

Toxicological data : No data is available on the product itself. The calculated ATE values for this mixture are:
ATE oral = 22 935.77mg/kg

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Ethylene glycol	4300 ppm (10.92 mg/L) (aerosol)	^{4000 (rat)} The estimated human lethal dose is: 1110 - 1665 mg/kg	9530 mg/kg

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout)	No information available.	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC₅₀ / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Ethylene glycol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L	None.

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<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ethylene glycol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.

12.2 Persistence and degradability

- : The product itself has not been tested.
- The following ingredients are considered to be readily biodegradable: Ethylene glycol.

12.3 Bioaccumulation potential

- : The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Ethylene glycol (CAS 107-21-1)	- 1.36	10

- 12.4 Mobility in soil** : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

- : This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

- : None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

- : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

- 12.8 Additional information** : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
- Methods of Disposal** : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION




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<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

Ethylene glycol (CAS # 107-21-1)

Directive 94/33/EC on the protection of young people at work: None of the components are specifically listed.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2020/878].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) 1 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstract Services
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
EC: European Community
EC50: Effective Concentration 50%
ECHA: European Chemicals Agency
EN: European Standard
EU: European Union
HSDB: Hazardous Substances Data Bank
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
OEL: National occupational exposure limits
QSAR: Quantitative structure-activity relationship
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
RTECS: Registry of Toxic Effects of Chemical Substances
SCBA: Self-Contained Breathing Apparatus
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
WEL: Workplace Exposure Limit

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 28/09/2018

Reviewed Date SDS (dd/mm/yyyy) : 01/10/2018

Revision No. : 2

Revision Information : (M)SDS sections updated :All (format change)

Regulation and Procedure :

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Based on expert judgement:
not regulated

H-phrases (full-text)
H302 - Harmful if swallowed.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

- 1.1 Product identifier** : **PhenoCode™ Signature Diluent**
Product Code(s) : PCSA1001
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
: Research and development only.
Use pattern: Research and development only. professional use
No restrictions on use known.
- 1.3 Details of the supplier of the safety data sheet:**
Akoya Biosciences, Inc.
100 Campus Dr, 6th Floor
Marlborough, MA, 01752 USA
Telephone : (855) 896 8401
- 1.4 Emergency Telephone Number**
: INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)
- 1.5 National Contact**
: customerservice@akoyabio.com
www.akiyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Yellow liquid. Odorless.

Most important hazards: Non-hazardous, non-flammable, non-toxic solid. Product is a highly water-soluble protein substance isolated from non-toxic plant materials.
Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This substance is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label None.

Signal word None required according to Regulation (EC) No. 1272/2008.

Hazard statements

None required according to Regulation (EC) No. 1272/2008.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation.

PBT assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Substance

Chemical nature : Polyether compound

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Polyethylene glycol	25322-68-3	500-038-2	Not available	100.00	not hazardous	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
- Skin contact* : Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Incomplete toxicological data are available for this product.
 Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
 Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
 Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
 Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. In the event of fire the following can be released: Carbon oxides

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated.

7.3 Specific end use(s) : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
Polyethylene glycol	None known.	European Union (OEL)	None.
	1000 mg/m ³ MAK (average molecular weight 200-600, inhalable fraction); 1000 mg/m ³ MAK (average molecular weight 200-600, inhalable fraction)	Germany (OEL)	N/Av
<u>Biological Exposure Indices:</u>			
No biological exposure limits noted for the ingredient(s).			

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : Where exposure is likely to be prolonged or is unknown wear approved respiratory protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

Skin protection

- : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166. .

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure controls

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Yellow liquid.
Colour	: yellow
Odour	: Odorless.
Odour threshold	: Not available.
pH	: 5 to 7
Flash point	: 138.6°C
Flashpoint (Method)	: Closed cup
Lower flammable limit (% by vol.)	: Not available.
Upper flammable limit (% by vol.)	: Not available.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	
Melting/Freezing point	: 205.7°C @ 977.6 hPa
	: -14.08°C @ 973 hPa
Relative density	: 1.116 g/cm ³
Solubility in water	: Soluble 256.084 g/L @ 25°C
Other solubility(ies)	: Not available.
Vapour pressure	: <0.1 hPa @ 20°C
Vapour density	: Not available.
Partition coefficient: n-octanol/water	
Viscosity	: Not available.
	: N/Av
Evaporation rate (BuAe = 1)	
Particle characteristics	: Not available.
	: Not applicable.

9.2 Other Information

Volatiles (% by weight) : Not available.

Volatile organic Compounds (VOC's)
: Not applicable.

Other physical/chemical comments: No additional information.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity** : Not normally reactive.
- 10.2 Chemical stability** : Stable under normal conditions.
- 10.3 Possibility of hazardous reactions**
: Hazardous polymerization does not occur.
- 10.4 Conditions to avoid** : Avoid contact with incompatible materials. Extremely high or low temperatures.
- 10.5 Incompatible materials**
: Strong oxidizers.
- 10.6 Hazardous decomposition products**
: Nitrogen oxides (NO_x) ;Carbon oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation**
: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation**
: Not expected to be a skin or respiratory sensitizer.
- Germ cell mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity** :
- Reproductive toxicity** :
STOT-single exposure :
- STOT-repeated exposure** :
- Aspiration hazard** :
- Routes of exposure** :
Effects of acute exposure :

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin contact: Direct skin contact may cause slight or mild, transient irritation.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Eye contact: Direct eye contact may cause slight or mild, transient irritation.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

Information on other Hazards

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity
Toxicological data

: Not classified for acute toxicity based on available data. No data is available on the product itself.

Chemical name	LC₅₀(4hr) inh, rat	LD₅₀	
		(Oral, rat)	(Rabbit, dermal)
Polyethylene glycol	N/Av	30 200 mg/kg	>20 000 mg/kg

SECTION 12. ECOLOGICAL INFORMATION
12.1 Toxicity

: No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC₅₀ / 96h	NOEC / 21 day	M Factor
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC₅₀ / 48h	NOEC / 21 day	M Factor
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC₅₀ / 96h or 72h	NOEC / 96h or 72h	M Factor
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer. **12.7**

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information :




SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Dispose of in accordance with the European Directives on waste and hazardous waste.

SECTION 14. TRANSPORTATION INFORMATION

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ICAO/IATA Additional information	None.	Not regulated.	not regulated	none	
	None.				
IMDG Additional information	None.	Not regulated.	not regulated	none	
	None.				
ADR/RID	None.	not regulated	not regulated	none	
EU ADR/RID Classification Code	Not applicable				
EU ADR / RID Hazard Identification Number	Not applicable				

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

ADR/RID Additional information	Not applicable				
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14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].
 Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: None.

Restrictions on use

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances: None of the components are specifically listed.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work: None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work: None of the components are specifically listed.

German legislation on water endangering substances Water hazard class (Germany) 1

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 16. OTHER INFORMATION

Legend : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 CAS: Chemical Abstract Services
 EC: European Community
 EC50: Effective Concentration 50%
 EEC: European Economic Community
 EU: European Union
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organisation
 IMDG: International Maritime Dangerous Goods
 LC: Lethal Concentration
 LD: Lethal Dose
 OECD: Organisation for Economic Co-operation and Development
 OEL: National occupational exposure limits
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail STEL: Short Term Exposure Limit
 TWA: Time Weighted Average
 WEL: Workplace Exposure Limit

Information Source : 1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation

Preparation Date (dd/mm/yyyy) 02/09/2022
Regulation and Procedure No applicable.

Other special considerations for handling : Provide adequate information, instruction, and training for operators.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process. This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc. **END OF DOCUMENT**

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : Opal 480 Reagent

Product Code(s) : OP-001000

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern : professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Solid No odour.

Most important hazards:

Harmful if swallowed. Causes skin and eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008.

Hazard classification

Acute toxicity, oral - Category 4; H302

Skin Irritation - Category 2 ; H315

Serious eye damage/eye irritation - Category 2A; H319

Specific target organ toxicity, single exposure - Category 3 (respiratory); H335

2.2 Label elements

Hazard pictogram(s)



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Hazardous components which must be listed on the label: 4-Iodophenylboronic acid

Signal word:

Warning!

Hazard statements:

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements:

P260 - Do not breathe dust or fumes.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves and eye/face protection.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403 + P233 - Store in a well-ventilated area. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local regulation.

Supplemental Hazard Statements:

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture.

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL M-factor, ATE</u>

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4-Iodophenylboronic acid	5122-99-6	629-039-7	Not available	80.0 - 100.0	Acute Tox. 4 ;H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3;H335	ATE oral = >300-2000 mg/kg
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For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Phenol ; Iodine; Other unidentified organic compounds

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Avoid dust formation. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

- : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

Biological Exposure Indices:	
No biological exposure limits noted for the ingredient(s).	

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

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- Respiratory protection** : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.
- Respiratory protection** : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.
- Skin protection** : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.
- Eye / face protection** : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.
- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state** : Solid
- Colour** : Not available.
- Odour** : No odour.
- Odour threshold** : No information available.
- pH** : Not available.
- Flash point** : Not applicable.
- Flashpoint (Method)** : Not applicable.
- Lower flammable limit (% by vol.)** : No information available.
- Upper flammable limit (% by vol.)** : No information available.
- Auto-ignition temperature** : No information available.
- Decomposition temperature** : No information available.
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Initial boiling point and boiling range** : Not available.
- Melting/Freezing point** : 326-330°C
- Relative density** : No information available.
- Solubility in water** : Insoluble.
- Other solubility(ies)** : No information available.
- Vapour pressure** : No information available.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Vapour density** : No information available.
- Partition coefficient: n-octanol/water** : No information available.
- Viscosity** : No information available.
- Evaporation rate (BuAe = 1)** : No information available.
- Particle characteristics** : Not available

9.2 Other Information

- Volatiles (% by weight)** : No information available.
- Volatile organic Compounds (VOC's)** : No information available.
- Other physical/chemical comments** : No additional information.

SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity** : Not normally reactive.
- 10.2 Chemical stability** : Stable under normal conditions.
- 10.3 Possibility of hazardous reactions** : Hazardous polymerization does not occur.
- 10.4 Conditions to avoid** : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
- 10.5 Incompatible materials** : Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
- 10.6 Hazardous decomposition products** : None known.
In the event of fire the following can be released: Carbon oxides; Phenols; Iodine; Nitrogen oxides (NOx); Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/irritation** : Skin irritation -Category 2 .Causes skin irritation.
- Serious eye damage/irritation** : Serious eye damage/eye irritation -Category 2A. Causes serious eye irritation.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. .
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

Opal 480 Reagent (Formerly Opal Polaris 480 Reagent)

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Routes of exposure : Inhalation; Skin contact; Eye contact; Ingestion

Effects of acute exposure :

Inhalation: May cause respiratory irritation. Symptoms may include coughing, choking and wheezing.

Skin contact: Causes skin irritation. Symptoms may include redness, itching and swelling.

Eye contact: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data : ATE oral = >300-2000 mg/kg

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.

No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC₅₀ / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

Opal 480 Reagent (Formerly Opal Polaris 480 Reagent)

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION




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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

CAS # 5122-99-8

Directive 94/33/EC on the protection of young people at work:

CAS# 5122-99-8

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - not water endangering (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 CAS: Chemical Abstract Services
 CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
 EC: European Community
 EC50: Effective Concentration 50%
 ECHA: European Chemicals Agency
 EN: European Standard
 EU: European Union
 HSDB: Hazardous Substances Data Bank
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 ICAO: International Civil Aviation Organisation
 IMDG: International Maritime Dangerous Goods
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 NOEC: No observable effect concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: National occupational exposure limits
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 RTECS: Registry of Toxic Effects of Chemical Substances
 SCBA: Self-Contained Breathing Apparatus
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 TWA: Time Weighted Average
 WEL: Workplace Exposure Limit

Information Source : 1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)

: 21/11/2022

Regulation and Procedure

:

Acute toxicity; Expert judgement
 Skin irritation ; Expert judgement
 Eye irritation; Expert judgement
 Specific target organ toxicity, single exposure; Expert judgement

H-phrases (full-text)

H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H319 - Causes serious eye irritation.
 H335 - May cause respiratory irritation.

Opal 480 Reagent (Formerly Opal Polaris 480 Reagent)

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **Opal® 570 Reagent**

Product Code(s) : OP-001003

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern: professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Solid No odour.

Most important hazards:

Harmful if swallowed. Causes skin and eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008.

Hazard classification

Acute toxicity, oral - Category 4; H302

Skin Irritation - Category 2 ; H315

Serious eye damage/eye irritation - Category 2A; H319

Specific target organ toxicity, single exposure - Category 3 (respiratory); H335

2.2 Label elements

Hazard pictogram(s)



SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Hazardous components which must be listed on the label: 4-Iodophenylboronic acid

Signal word:

Warning!

Hazard statements:

- H302 - Harmful if swallowed.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.

Precautionary statements:

- P260 - Do not breathe dust or fumes.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink, or smoke when using this product.
- P280 - Wear protective gloves and eye/face protection.

- P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

- P403 + P233 - Store in a well-ventilated area. Keep container tightly closed.
- P501 - Dispose of contents/container in accordance with local regulation.

Supplemental Hazard Statements:

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture.

The following substances shall be indicated according to legislation:

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4-Iodophenylboronic acid	5122-99-6	629-039-7	Not available	80.0 - 100.0	Acute Tox. 4 ;H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3;H335	ATE oral = >300-2000 mg/kg
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For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire, the following can be released: Carbon oxides; Phenol; Iodine; Other unidentified organic compounds

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Avoid dust formation. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

: Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes

Biological Exposure Indices:	
No biological exposure limits noted for the ingredient(s).	

Derived No Effect Level (DNEL):

No information available.

Predicted No Effect Concentration (PNEC):

No information available.

8.2 Exposure controls

Ventilation and engineering measures

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Respiratory protection**
 : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.
- Skin protection**
 : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.
- Eye / face protection**
 : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.
- Other protective equipment**
 : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.
- General hygiene considerations**
 : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
- Other protective equipment**
 : Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state** : Solid
- Colour** : Not available.
- Odour** : No odour.
- Odour threshold** : No information available.
- pH** : Not available.
- Flash point** : Not applicable.
- Flashpoint (Method)** : Not applicable.
- Lower flammable limit (% by vol.)** : No information available.
- Upper flammable limit (% by vol.)** : No information available.
- Auto-ignition temperature** : No information available.
- Decomposition temperature** : No information available.
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Initial boiling point and boiling range** : Not available.
- Melting/Freezing point** : 326-330°C
- Relative density** : No information available.
- Solubility in water** : Insoluble.
- Other solubility(ies)** : No information available.
- Vapour pressure** : No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Vapour density : No information available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity : No information available.

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics : Not available

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

10.6 Hazardous decomposition products

: None known.

In the event of fire, the following can be released: Carbon oxides; Phenols; Iodine; Nitrogen oxides (NOx); Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : Skin irritation-Category 2. Causes skin irritation.

Serious eye damage/irritation

: Serious eye damage/eye irritation -Category 2A. Causes serious eye irritation.

Respiratory or skin sensitisation

: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.

According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.

Germ cell mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity : Contains no ingredient listed as a carcinogen No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. .

Reproductive toxicity : Contains no ingredient listed as toxic to reproduction.

STOT-single exposure : Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.

STOT-repeated exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Routes of exposure : Inhalation; Skin contact; Eye contact; Ingestion

Effects of acute exposure :

Inhalation: May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing.

Skin contact: Causes skin irritation. Symptoms may include redness, itching and swelling.

Eye contact: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data : ATE oral = >300-2000 mg/kg

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:




Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID ADR/RID Additional information	None.	not regulated	not regulated	none	
	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA ICAO/IATA Additional information	None.	Not regulated.	not regulated	none	
	None.				
IMDG IMDG Additional information	None.	Not regulated.	not regulated	none	
	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

CAS # 5122-99-8

Directive 94/33/EC on the protection of young people at work:

CAS# 5122-99-8

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - not water endangering (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend	<ul style="list-style-type: none"> : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road CAS: Chemical Abstract Services CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures EC: European Community EC50: Effective Concentration 50% ECHA: European Chemicals Agency EN: European Standard EU: European Union HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association IBC: Intermediate Bulk Container ICAO: International Civil Aviation Organisation IMDG: International Maritime Dangerous Goods Inh: Inhalation LC: Lethal Concentration LD: Lethal Dose NOEC: No observable effect concentration OECD: Organisation for Economic Co-operation and Development OEL: National occupational exposure limits RID: Regulations concerning the International Carriage of Dangerous Goods by Rail RTECS: Registry of Toxic Effects of Chemical Substances SCBA: Self-Contained Breathing Apparatus SDS: Safety Data Sheet STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit
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- Information Source** :
1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 22/11/2022

Regulation and Procedure :

Acute toxicity; Expert judgement
Skin irritation ; Expert judgement
Eye irritation; Expert judgement
Specific target organ toxicity, single exposure; Expert judgement

H-phrases (full-text)
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **Opal® 620 Reagent**

Product Code(s) : OP-001004

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern: professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Solid No odour.

Most important hazards:

Harmful if swallowed. Causes skin and eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008.

Hazard classification

Acute toxicity, oral - Category 4; H302

Skin Irritation - Category 2; H315

Serious eye damage/eye irritation - Category 2A; H319

Specific target organ toxicity, single exposure - Category 3 (respiratory); H335

2.2 Label elements

Hazard pictogram(s)



SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Hazardous components which must be listed on the label: 4-Iodophenylboronic acid

Signal word:

Warning!

Hazard statements:

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements:

P260 - Do not breathe dust or fumes.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves and eye/face protection.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403 + P233 - Store in a well-ventilated area. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local regulation.

Supplemental Hazard Statements:

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture.

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL M-factor, ATE</u>

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4-Iodophenylboronic acid	5122-99-6	629-039-7	Not available	80.0 - 100.0	Acute Tox. 4 ;H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3;H335	ATE oral = >300-2000 mg/kg
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For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Phenol; Iodine; Other unidentified organic compounds

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Avoid dust formation. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

: Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>

<u>Biological Exposure Indices:</u>	
No biological exposure limits noted for the ingredient(s).	

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Respiratory protection** : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.
- Respiratory protection** : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.
- Skin protection** : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.
- Eye / face protection** : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.
- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state** : Solid
- Colour** : Not available.
- Odour** : No odour.
- Odour threshold** : No information available.
- pH** : Not available.
- Flash point** : Not applicable.
- Flashpoint (Method)** : Not applicable.
- Lower flammable limit (% by vol.)** : No information available.
- Upper flammable limit (% by vol.)** : No information available.
- Auto-ignition temperature** : No information available.
- Decomposition temperature** : No information available.
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Initial boiling point and boiling range** : Not available.
- Melting/Freezing point** : 326-330°C
- Relative density** : No information available.
- Solubility in water** : Insoluble.
- Other solubility(ies)** : No information available.
- Vapour pressure** : No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Vapour density** : No information available.
- Partition coefficient: n-octanol/water** : No information available.
- Viscosity** : No information available.
- Evaporation rate (BuAe = 1)** : No information available.
- Particle characteristics** : Not available

9.2 Other Information

- Volatiles (% by weight)** : No information available.
- Volatile organic Compounds (VOC's)** : No information available.
- Other physical/chemical comments** : No additional information.

SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity** : Not normally reactive.
- 10.2 Chemical stability** : Stable under normal conditions.
- 10.3 Possibility of hazardous reactions** : Hazardous polymerization does not occur.
- 10.4 Conditions to avoid** : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
- 10.5 Incompatible materials** : Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
- 10.6 Hazardous decomposition products** : None known.
In the event of fire, the following can be released: Carbon oxides; Phenols; Iodine; Nitrogen oxides (NOx); Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : Skin irritation -Category 2. Causes skin irritation.
- Serious eye damage/irritation** : Serious eye damage/eye irritation -Category 2A. Causes serious eye irritation.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** :
- Inhalation: May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing.
 - Skin contact: Causes skin irritation. Symptoms may include redness, itching and swelling.
 - Eye contact: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
 - Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : ATE oral = >300-2000 mg/kg
- See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

11.2 Information on other Hazards

- : None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity** : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC ₅₀ / 96h	NOEC / 21 day	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC ₅₀ / 48h	NOEC / 21 day	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:




Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

CAS # 5122-99-8

Directive 94/33/EC on the protection of young people at work:

CAS# 5122-99-8

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - not water endangering (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EC: European Community
- EC50: Effective Concentration 50%
- ECHA: European Chemicals Agency
- EN: European Standard
- EU: European Union
- HSDB: Hazardous Substances Data Bank
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Dangerous Goods
- Inh: Inhalation
- LC: Lethal Concentration
- LD: Lethal Dose
- NOEC: No observable effect concentration
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- RTECS: Registry of Toxic Effects of Chemical Substances
- SCBA: Self-Contained Breathing Apparatus
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average
- WEL: Workplace Exposure Limit

- Information Source** :
1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

- Preparation Date (dd/mm/yyyy)** : 22/11/2022

Regulation and Procedure :

Acute toxicity; Expert judgement
Skin irritation ; Expert judgement
Eye irritation; Expert judgement
Specific target organ toxicity, single exposure; Expert judgement

H-phrases (full-text)

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **Opal® 690 Reagent**

Product Code(s) : OP-001006

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern: professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Solid. No odour.

Most important hazards:

Harmful if swallowed. Causes skin and eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008.

Hazard classification

Acute toxicity, oral - Category 4; H302

Skin Irritation - Category 2 ; H315

Serious eye damage/eye irritation - Category 2A; H319

Specific target organ toxicity, single exposure - Category 3 (respiratory); H335

2.2 Label elements

Hazard pictogram(s)



SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Hazardous components which must be listed on the label: 4-Iodophenylboronic acid

Signal word:

Warning!

Hazard statements:

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements:

P260 - Do not breathe dust or fumes.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink, or smoke when using this product.
P280 - Wear protective gloves and eye/face protection.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403 + P233 - Store in a well-ventilated area. Keep container tightly closed.
P501 - Dispose of contents/container in accordance with local regulation.

Supplemental Hazard Statements:

EUH210 - Safety data sheet available on request.

2.3 Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture.

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL M-factor, ATE</u>

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4-Iodophenylboronic acid	5122-99-6	629-039-7	Not available	80.0 - 100.0	Acute Tox. 4 ;H302 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3;H335	ATE oral = >300-2000 mg/kg
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For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire, the following can be released: Carbon oxides; Phenol; Iodine; Other unidentified organic compounds

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Contaminated absorbent material may pose the same hazards as the spilled product. Avoid dust formation. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

: Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Respiratory protection** : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.
- Respiratory protection** : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.
- Skin protection** : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.
- Eye / face protection** : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.
- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state** : Solid
- Colour** : Not available.
- Odour** : No odour.
- Odour threshold** : No information available.
- pH** : Not available.
- Flash point** : Not applicable.
- Flashpoint (Method)** : Not applicable.
- Lower flammable limit (% by vol.)** : No information available.
- Upper flammable limit (% by vol.)** : No information available.
- Auto-ignition temperature** : No information available.
- Decomposition temperature** : No information available.
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Initial boiling point and boiling range** : Not available.
- Melting/Freezing point** : 326-330°C
- Relative density** : No information available.
- Solubility in water** : Insoluble.
- Other solubility(ies)** : No information available.
- Vapour pressure** : No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Vapour density : No information available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity : No information available.

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics : Not available

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

10.6 Hazardous decomposition products

: None known.

In the event of fire the following can be released: Carbon oxides; Phenols; Iodine; Nitrogen oxides (NOx); Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : Skin irritation -Category 2. Causes skin irritation.

Serious eye damage/irritation

: Serious eye damage/eye irritation -Category 2A. Causes serious eye irritation.

Respiratory or skin sensitisation

: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.

According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.

Germ cell mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity : Contains no ingredient listed as a carcinogen No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive toxicity : Contains no ingredient listed as toxic to reproduction.

STOT-single exposure : Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.

STOT-repeated exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** :
- Inhalation: May cause respiratory irritation. Symptoms may include coughing, choking, and wheezing.
 - Skin contact: Causes skin irritation. Symptoms may include redness, itching and swelling.
 - Eye contact: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
 - Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : ATE oral = >300-2000 mg/kg
- See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
4-Iodophenylboronic acid	N/Av	N/Av	N/Av

11.2 Information on other Hazards

- : None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity** : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC₅₀ / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
4-Iodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:




Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

CAS # 5122-99-8

Directive 94/33/EC on the protection of young people at work:

CAS# 5122-99-8

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - not water endangering (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EC: European Community
- EC50: Effective Concentration 50%
- ECHA: European Chemicals Agency
- EN: European Standard
- EU: European Union
- HSDB: Hazardous Substances Data Bank
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Dangerous Goods
- Inh: Inhalation
- LC: Lethal Concentration
- LD: Lethal Dose
- NOEC: No observable effect concentration
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- RTECS: Registry of Toxic Effects of Chemical Substances
- SCBA: Self-Contained Breathing Apparatus
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average
- WEL: Workplace Exposure Limit

- Information Source** :
1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

- Preparation Date (dd/mm/yyyy)** :
- 22/11/2022

Regulation and Procedure :

Acute toxicity; Expert judgement
Skin irritation; Expert judgement
Eye irritation; Expert judgement
Specific target organ toxicity, single exposure; Expert judgement

H-phrases (full-text)

H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **Opal® TSA-DIG Reagent**

Product Code(s) : OP-001007

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
Use pattern: professional use
Restrictions on use: Research and development only.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr, 6th Floor
Marlborough, MA, USA 01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC-United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Solid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of dusts may cause respiratory irritation. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Mixture

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Inhalation of dusts may cause respiratory irritation. May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; ; Nitrogen oxides (NOx); Sodium oxides ; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

- : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

No hazardous ingredients over concentration cut-offs	Not applicable.	European Union (OEL)	Not applicable.
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Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
 No information available.

Predicted No Effect Concentration (PNEC):
 No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

: Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Solid
Colour : Not available.
Odour : No odour.
Odour threshold : No information available.
pH : Not available.
Flash point : Not available.
Flashpoint (Method) : No information available.
Lower flammable limit (% by vol.)
 : No information available.
Upper flammable limit (% by vol.)
 : No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Auto-ignition temperature

: No information available.

Decomposition temperature

: Not available.

Oxidizing properties

: None.

Explosive properties

: Not explosive

Initial boiling point and boiling range

: Not available.

Melting/Freezing point

: Not available.

Relative density

: Not available.

Solubility in water

: Insoluble.

Other solubility(ies)

: No information available.

Vapour pressure

: Not available.

Vapour density

: Not available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity

: Not applicable.

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics

: Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

10.6 Hazardous decomposition products

: None known.

In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NO_x); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Serious eye damage/irritation

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation

: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.

Germ cell mutagenicity

: Contains no ingredient listed as a mutagen.

Carcinogenicity

: Contains no ingredient listed as a carcinogen.

Reproductive toxicity

: Contains no ingredient listed as toxic to reproduction.

STOT-single exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard

: According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

Routes of exposure

: Inhalation; Skin contact; Eye contact; Ingestion

Effects of acute exposure

: Inhalation: Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data

: No data is available on the product itself.

See below for individual ingredient acute toxicity data.

Chemical name	LC₅₀(4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
No hazardous ingredients above concentration cut-offs	Not applicable.	Not applicable.	Not applicable.

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS




13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION					
<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 CAS: Chemical Abstract Services
 CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
 EC: European Community
 EC50: Effective Concentration 50%
 ECHA: European Chemicals Agency
 EU: European Union
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 ICAO: International Civil Aviation Organisation
 IMDG: International Maritime Dangerous Goods
 LC: Lethal Concentration
 LD: Lethal Dose
 NOEC: No observable effect concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: National occupational exposure limits
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SCBA: Self-Contained Breathing Apparatus
 STEL: Short Term Exposure Limit
 TWA: Time Weighted Average

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Information Source : 1. Material Safety Data Sheet from manufacturer.
 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
 3. European Chemicals Agency, Classification Legislation
 4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 21/11/2022

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

Opal® 780 Reagent (Formerly Opal Polaris 780)

Page 1 of 10

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier** : **Opal® 780 Reagent****Product Code(s)** : OP-001008**1.2 Relevant identified uses of the substance or mixture and uses advised against**: Research and development only.
Use pattern: professional use
Restrictions on use: Research and development only.**1.3 Details of the supplier of the safety data sheet:****Akoya Biosciences, Inc.**100 Campus Dr, 6th Floor
Marlborough, MA, USA 01752**Supplier Telephone Number**

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC-United States of America)

1.5 National Contact: customercareemea@akoyabio.com**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Solid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements*Hazard pictogram(s)*

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of dusts may cause respiratory irritation. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Mixture

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.	Not applicable.	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Inhalation of dusts may cause respiratory irritation. May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NO_x); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

- : Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:

<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

No hazardous ingredients above concentration cut-offs	Not applicable.	European Union (OEL)	Not applicable.
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Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Solid
Colour : Not available.
Odour : No odour.
Odour threshold : No information available.
pH : Not available.
Flash point : Not available.
Flashpoint (Method) : No information available.
Lower flammable limit (% by vol.) : No information available.
Upper flammable limit (% by vol.) : No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Auto-ignition temperature

: No information available.

Decomposition temperature

: Not available.

Oxidizing properties : None.

Explosive properties : Not explosive

Initial boiling point and boiling range

: Not available.

Melting/Freezing point : Not available.

Relative density : Not available.

Solubility in water : Insoluble.

Other solubility(ies) : No information available.

Vapour pressure : Not available.

Vapour density : Not available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity : Not applicable.

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

10.6 Hazardous decomposition products

: None known.

In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NO_x); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Serious eye damage/irritation

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation

: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.

Germ cell mutagenicity

: Contains no ingredient listed as a mutagen.

Carcinogenicity

: Contains no ingredient listed as a carcinogen.

Reproductive toxicity

: Contains no ingredient listed as toxic to reproduction.

STOT-single exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure

: According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard

: According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

Routes of exposure

: Inhalation; Skin contact; Eye contact; Ingestion

Effects of acute exposure

: Inhalation: Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data

: No data is available on the product itself.

See below for individual ingredient acute toxicity data.

Chemical name	LC₅₀(4hr) inh, rat	LD₅₀	
		(Oral, rat)	(Rabbit, dermal)
No hazardous ingredients above concentration cut-offs	Not applicable.	Not applicable.	Not applicable.

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients above concentration cut-offs	N/Av	Not applicable.	Not applicable.	Not applicable.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information

: None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS




13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION					
<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EC: European Community
- EC50: Effective Concentration 50%
- ECHA: European Chemicals Agency
- EU: European Union
- IATA: International Air Transport Association
- IBC: Intermediate Bulk Container
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Dangerous Goods
- LC: Lethal Concentration
- LD: Lethal Dose
- NOEC: No observable effect concentration
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- SCBA: Self-Contained Breathing Apparatus
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)

: 21/11/2022

Regulation and Procedure

:

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

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END OF DOCUMENT

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **DMSO**

Product Code(s) : DMSO0500UL. DMSO0100UL, 200045

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Research and development only.
 Use pattern: professional use
 Restrictions on use: Research and development only.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr, 6th Floor
 Marlborough, MA, USA 01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC -United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Clear liquid. No odour.

Most important hazards:

Harmful to aquatic life. See Section 12 for more environmental information. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

This substance is classified as hazardous according to Regulation (EC) No. 1272/2008. Classification:
 Acute aquatic hazard Category 3

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

H402 - Harmful to aquatic life.

DMSO (Formerly Dimethyl sulfoxide)

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Precautionary statements:

P273 - Avoid release to the environment.

P501 - Dispose of contents/container in accordance with local regulation.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical nature Substance

The following substances shall be indicated according to legislation:

3.2 Mixtures

Not applicable

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Dimethyl sulfoxide	67-68-5	200-664-3	Not applicable.	>99.9	Aquatic Acute3, H402	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
 May cause slight eye and skin irritation. Direct eye contact may cause slight redness.
 Direct skin contact may cause temporary redness.
 Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

5.1 Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcoholfoams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

None known.

5.2 Special hazards arising from the substance or mixture

: Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Sulphur oxides; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental

precautions

Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s)

: Research and development only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:

<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>



Akoya Biosciences, Inc.
100 Campus Dr, 6th Floor
Marlborough, MA 01752 USA
Telephone: 855.896.8401

Dimethyl sulfoxide			
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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

	None known.	European Union (OEL)	None.
	50 ppm MAK; 160 mg/m ³ MAK;;;	Austria (OEL)	Skin notation
	;50 ppm MAK; 160 mg/m ³ MAK;50 ppm MAK; 160 mg/m ³ MAK	Germany (OEL)	Skin notation
	50 ppm LLV; 150 mg/m ³ LLV;150 ppm STV; 500 mg/m ³ STV;	Sweden (OEL)	Skin notation

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Clear liquid.
Colour	: Clear
Odour	: No odour.
Odour threshold	: No information available.
pH	: Not applicable.
Flash point	: 95°C
Flashpoint (Method)	: No information available.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: 189°C
Oxidizing properties	: None.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: >189°C
Melting/Freezing point	: 18.45°C
Relative density	: 1.1 g/cm ³
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: 2.5 hPa
Vapour density	: (Air = 1) 0.633
Partition coefficient: n-octanol/water	: -2.03
Viscosity	: 1.818
Evaporation rate (BuAe = 1)	: 0.026
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: 100%
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
10.6 Hazardous decomposition products	: None known. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides(NOx); Sodium oxides; Hydrogen chloride; Other unidentified organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation** : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
- Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
- Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself.

See below for individual ingredient acute toxicity data.

Chemical name	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Dimethyl sulfoxide			

11.2 Information on other Hazards

- : None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity** : Harmful to aquatic life.
The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Dimethyl sulfoxide	67-68-5	34 mg/L	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Dimethyl sulfoxide	67-68-5	N/Av	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Dimethyl sulfoxide	67-68-5	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

Components

Partition coefficient n-octanol/water (log Kow)

Bioconcentration factor (BCF)

Dimethyl sulfoxide (CAS 67-68-5)	-2.03	N/Av
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12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.




DMSO (Formerly Dimethyl sulfoxide)

Page 8 of 10

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION					
Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 2 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend

: ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 CAS: Chemical Abstract Services
 CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
 EC: European Community
 EC50: Effective Concentration 50%
 ECHA: European Chemicals Agency
 EU: European Union
 IATA: International Air Transport Association
 IBC: Intermediate Bulk Container
 ICAO: International Civil Aviation Organisation
 IMDG: International Maritime Dangerous Goods
 LC: Lethal Concentration
 LD: Lethal Dose
 NOEC: No observable effect concentration
 OECD: Organisation for Economic Co-operation and Development
 OEL: National occupational exposure limits
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SCBA: Self-Contained Breathing Apparatus
 STEL: Short Term Exposure Limit
 TWA: Time Weighted Average

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)
: 31/10/2022

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

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END OF DOCUMENT

S BlockerSDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

Page 1 of 11

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier : S Blocker****Product Code(s) : 232111****1.2 Relevant identified uses of the substance or mixture and uses advised against**

: Consumer use; professional use No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:**Akoya Biosciences, Inc.**100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752**Supplier Telephone Number**

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		
232111			

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact: customercareemea@akoyabio.com**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements*Hazard pictogram(s)*

S Blocker

SDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

Page 2 of 11

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. May be mildly irritating to skin, eyes and respiratory system. May cause gastrointestinal irritation.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Water; Amino alcohol; Carboxylic acid; Sodium Salt; Halogenated mineral acid; Oligonucleotides

The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients	N/Av	Not applicable	Not applicable	Not applicable.	Not applicable	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

S BlockerSDS Revision Date (dd/mm/yyyy): 15/12/2022
Revision No.: 2

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

4.2 Most important symptoms and effects, both acute and delayed

- : Mild respiratory irritant. May cause coughing and breathing difficulties.
- May cause slight eye and skin irritation. Direct eye contact may cause slight redness.
- Direct skin contact may cause temporary redness.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES**5.1 Extinguishing media***Suitable extinguishing media*

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Chlorine; Hydrogen; Other unidentified organic compounds.

5.3 Advice for firefighters*Protective equipment for fire-fighters*

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE**7.1 Precautions for safe handling**

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

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- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

7.3 Specific end use(s) : Reagents for single-step staining of tissue with antibodies from the Human and/or Conjugation kit.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
No hazardous ingredients	Not applicable	European Union (OEL)	Not applicable

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Physical state	: Clear liquid.
Colour	: Clear.
Odour	: No odour.
Odour threshold	: No information available.
pH	: No information available.
Flash point	: No information available.
Flashpoint (Method)	: No information available.
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: No information available.
Melting/Freezing point	: No information available.
Relative density	: No information available.
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

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10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Reducing agents

10.6 Hazardous decomposition products

: None known.

In the event of fire the following can be released: Carbon oxides; Nitrogen oxides (NOx); Chlorine; Hydrogen; Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological effects:****Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.**Skin corrosion/irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.**Serious eye damage/irritation**

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.**Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.**Carcinogenicity** : Contains no ingredient listed as a carcinogen.**Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.**STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.**STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.**Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.**Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion**Effects of acute exposure** : Inhalation: Mild respiratory irritant. May cause coughing and breathing difficulties.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity**Toxicological data** : No data is available on the product itself.

See below for individual ingredient acute toxicity data.

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<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
No hazardous ingredients	Not applicable.	Not applicable.	Not applicable.

11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC₅₀ / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC₅₀ / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC₅₀ / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
No hazardous ingredients	N/Av	N/Av	N/Av	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

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: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.




SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - not water endangering (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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SECTION 16. OTHER INFORMATION

Legend	<ul style="list-style-type: none"> : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road CAS: Chemical Abstract Services CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures EC: European Community EC50: Effective Concentration 50% ECHA: European Chemicals Agency EN: European Standard EU: European Union HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association IBC: Intermediate Bulk Container ICAO: International Civil Aviation Organisation IMDG: International Maritime Dangerous Goods Inh: Inhalation LC: Lethal Concentration LD: Lethal Dose NOEC: No observable effect concentration OECD: Organisation for Economic Co-operation and Development OEL: National occupational exposure limits RID: Regulations concerning the International Carriage of Dangerous Goods by Rail RTECS: Registry of Toxic Effects of Chemical Substances SCBA: Self-Contained Breathing Apparatus SDS: Safety Data Sheet STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit
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Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 01/10/2018

Reviewed Date SDS (dd/mm/yyyy) : 15/12/2022

Revision No. : 2

Revision Information : (M)SDS sections updated: All (format change)

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

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SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **PhenoCode™ Signature Blocker 1**

Product Code(s) : 200039

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Consumer use; professional use No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.

100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752

Supplier Telephone Number

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact

: customercareemea@akoyabio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

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Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

Burning produces obnoxious and toxic fumes. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

PBT assessment: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Water; Buffered saline; Sodium salts; Phosphate salt; BSA; Carboxylic acid; IgG
The following substances shall be indicated according to legislation:

Substance name	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
No hazardous ingredients	N/Av	Not applicable	Not applicable	Not applicable.	Not applicable	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Wash off with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
May cause slight eye and skin irritation. Direct eye contact may cause slight redness.
Direct skin contact may cause temporary redness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not classified as flammable. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NOx); Phosphorus compounds; Hydrogen chloride; Other unidentified organic compounds.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment.

6.2 Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the SDS).

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7.3 Specific end use(s) : Reagents for single-step staining of tissue with antibodies from the Human and/or Conjugation kit.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
No hazardous ingredients	Not applicable	European Union (OEL)	Not applicable

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

: In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

: Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

: Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state : Clear liquid.

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Colour	: Clear.
Odour	: No odour.
Odour threshold	: No information available.
pH	: 7.4
Flash point	: None. (> 90% water)
Flashpoint (Method)	: No information available.
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: > 100°C (based on ingredients)
Melting/Freezing point	: No information available.
Relative density	: No information available.
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
10.2 Chemical stability	: Stable under normal conditions.
10.3 Possibility of hazardous reactions	: Hazardous polymerization does not occur.
10.4 Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
10.5 Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
10.6 Hazardous decomposition products	

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- : None known.
- In the event of fire the following can be released: Carbon oxides; Metal oxides; Nitrogen oxides (NOx); Phosphorus compounds; Hydrogen chloride; Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation** : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen.
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.

Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.

Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself.

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
No hazardous ingredients	Not applicable.	Not applicable.	Not applicable.

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11.2 Information on other Hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : Not expected to be harmful to aquatic organisms.
No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

12.2 Persistence and degradability : The product itself has not been tested.

12.3 Bioaccumulation potential : The product itself has not been tested.

12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment : This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties : None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

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SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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SECTION 16. OTHER INFORMATION

Legend	<ul style="list-style-type: none"> : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road CAS: Chemical Abstract Services CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures EC: European Community EC50: Effective Concentration 50% ECHA: European Chemicals Agency EN: European Standard EU: European Union HSDB: Hazardous Substances Data Bank IATA: International Air Transport Association IBC: Intermediate Bulk Container ICAO: International Civil Aviation Organisation IMDG: International Maritime Dangerous Goods Inh: Inhalation LC: Lethal Concentration LD: Lethal Dose NOEC: No observable effect concentration OECD: Organisation for Economic Co-operation and Development OEL: National occupational exposure limits RID: Regulations concerning the International Carriage of Dangerous Goods by Rail RTECS: Registry of Toxic Effects of Chemical Substances SCBA: Self-Contained Breathing Apparatus SDS: Safety Data Sheet STEL: Short Term Exposure Limit TWA: Time Weighted Average WEL: Workplace Exposure Limit
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Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 01/10/2018

Reviewed Date SDS (dd/mm/yyyy) : 01/10/2018

Revision No. : 2

Revision Information : (M)SDS sections updated :All (format change)

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier : PhenoCode™ Signature Blocker 5****Product Code(s) : 200040****1.2 Relevant identified uses of the substance or mixture and uses advised against**

: Consumers; professional use No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:**Akoya Biosciences, Inc.**100 Campus Dr,
6th Floor
Marlborough, MA, USA
01752**Supplier Telephone Number**

: Austria	Belgium	Denmark	Finland
+32 (2) 3203033	+32 (2) 32023033	+45 (8) 0703552	+358 (9) 42452710
France	Poland	Ireland	Italy
+33 (0) 805119658	+48 (3) 23074035	+353 (1) 800851675	+39 800768419
Netherlands	Sweden	Spain	Switzerland
+31 (8) 000235193	+46 (84) 4685042	+34 91198427	+41 (3) 15281579
United Kingdom	United States of America		
+44 (20) 45252848	(855) 896 8401		

1.4 Emergency Telephone Number

: +1 (352) 323-3500 (INFOTRAC - United States of America)

1.5 National Contact: customercareemea@akoyabio.com**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Clear liquid. No odour.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements*Hazard pictogram(s)*

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Hazardous components which must be listed on the label:
None.

Signal word:
None required according to Regulation (EC) No. 1272/2008.

Hazard statements:
None required according to Regulation (EC) No. 1272/2008.

Precautionary statements:
None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:
None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:
May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.

PBT assessment:
This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature : DNA.

The following substances shall be indicated according to legislation:

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	Not available	10 mg/mL	not hazardous (self classified)	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Immediately flush with plenty of water, while removing contaminated clothing. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

4.1.2 Self-protection for the first aider

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: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

: Incomplete toxicological data are available for this product.
Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

5.2 Special hazards arising from the substance or mixture

: Not classified as flammable. In the event of fire the following can be released: irritating fumes and smoke .

5.3 Advice for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

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- : Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Recommended storage temperature: - 20°C

7.3 Specific end use(s)

- : Reagents for iterative cycles of revealing and removing tags. For use in CODEX MPI fluidics instrument.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

<u>Exposure Limits:</u>			
<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
Oligodeoxyribonucleic acid	modified None known.	European Union (OEL)	None.

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):

No information available.

Predicted No Effect Concentration (PNEC):

No information available.

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection

- : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

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- : Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure control

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Clear liquid.
Colour	: Clear.
Odour	: No odour.
Odour threshold	: No information available.
pH	: No information available.
Flash point	: No information available.
Flashpoint (Method)	: No information available.
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: No information available.
Melting/Freezing point	: No information available.
Relative density	: No information available.
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

9.2 Other Information

Volatiles (% by weight)	: No information available.
Volatile organic Compounds (VOC's)	: No information available.
Other physical/chemical comments	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity	: Not normally reactive.
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- 10.2 Chemical stability** : Stable under normal conditions.
- 10.3 Possibility of hazardous reactions**
: Hazardous polymerization does not occur.
- 10.4 Conditions to avoid** : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
- 10.5 Incompatible materials**
: None known or reported by the manufacturer.
- 10.6 Hazardous decomposition products**
: None known or reported by the manufacturer.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/irritation**
: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation**
: According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Fumes from heated product may irritate respiratory tract. May cause coughing and breathing difficulties.
- Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
- Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

- : None known or reported by the manufacturer.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself. See below for individual ingredient acute toxicity data.

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<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Oligodeoxyribonucleic acid, modified	No information available.	No information available.	No information available.

11.2 Information on other Hazards

: Incomplete toxicological data are available for this product.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC ₅₀ / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC ₅₀ / 48h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC ₅₀ / 96h or 72h	NOEC / 96h or 72h	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil

: The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.




SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION

<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work:

None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 16. OTHER INFORMATION

Legend : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS: Chemical Abstract Services
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
EC: European Community
EC50: Effective Concentration 50%
ECHA: European Chemicals Agency
EN: European Standard
EU: European Union
HSDB: Hazardous Substances Data Bank
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
Inh: Inhalation
NOEC: No observable effect concentration
OECD: Organisation for Economic Co-operation and Development
OEL: National occupational exposure limits
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
RTECS: Registry of Toxic Effects of Chemical Substances
SCBA: Self-Contained Breathing Apparatus
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
WEL: Workplace Exposure Limit

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy)

: 27/09/2018

Reviewed Date SDS (dd/mm/yyyy)

: 15/12/2022

Revision No.

: 2

Revision Information

: (M)SDS sections updated :All (format change)

Regulation and Procedure

:

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<p><u>Prepared for:</u> Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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PhenoCode™ Signature Detector

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : **PhenoCode™ Signature Detector**

Product Code(s) : PCSD067, PCSD069, PCSD015, PCSD046, PCSD026, PCSD066, PCSD080, PCSD064, PCSD047, PCSD041, PCSD031, PCSD003, PCSD076, PCSD078, PCSD013, PCSD017

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Reagent for tagging a custom antibody.
Use pattern: Professional use only
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Akoya Biosciences, Inc.
100 Campus Dr, 6th Floor
Marlborough, MA, USA 01752

Telephone : (855) 896 8401

1.4 Emergency Telephone Number

: INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

1.5 National Contact

: customerservice@akoybio.com
www.akoybio.com

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Light brown solid. No odour.

Most important hazards:

Non-hazardous, non-flammable, non-toxic solid. Product is a highly water-soluble protein substance isolated from non-toxic plant materials. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

The product is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label:

None.

Signal word:

None required according to Regulation (EC) No. 1272/2008.

Hazard statements:

None required according to Regulation (EC) No. 1272/2008.

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Precautionary statements:

None required according to Regulation (EC) No. 1272/2008.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Other hazards which do not result in classification:

May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.

PBT assessment:

This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature : DNA.

The following substances shall be indicated according to legislation:

<u>Substance name</u>	<u>CAS No</u>	<u>EC No.</u>	<u>Reach Registration No.</u>	<u>% Weight</u>	<u>Classification according to Regulation (EC) nr. 1272/2008</u>	<u>SCL, M-factor, ATE</u>
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	Not applicable.	No information available	not hazardous (self classified)	Not applicable.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. When symptoms persist or in all cases of doubt, seek medical advice.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. When symptoms persist or in all cases of doubt, seek medical advice.
- Skin contact* : Immediately flush with plenty of water, while removing contaminated clothing. When symptoms persist or in all cases of doubt, seek medical advice. Wash contaminated clothing before reuse.
- Eye contact* : Immediately flush eye(s) with plenty of water. When symptoms persist or in all cases of doubt, seek medical advice.

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4.1.2 Self-protection for the first aider

: None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

: Incomplete toxicological data are available for this product.
Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

5.2 Special hazards arising from the substance or mixture

: Not classified as flammable. In the event of fire, the following can be released: irritating fumes and smoke.

5.3 Advice for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

: Wear appropriate protective equipment.

6.2 Environmental precautions

: Prevent product from entering drains, sewers, waterways, and soil.

6.3 Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended

: Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles.
Recommended storage temperature: - 20°C

7.3 Specific end use(s)

: Reagent for tagging a custom antibody

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
Oligodeoxyribonucleic acid, modified	None known.	European Union (OEL)	None.

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):
No information available.

Predicted No Effect Concentration (PNEC):
No information available.

8.2 Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Seek advice from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. See also EN 166.

Other protective equipment

: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure controls

: Avoid release to the environment.

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SAFETY DATA SHEET

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Light brown solid.
Colour	: light brown
Odour	: No odour.
Odour threshold	: No information available.
pH	: No information available.
Flash point	: No information available.
Flashpoint (Method)	: No information available.
Lower flammable limit (% by vol.)	: No information available.
Upper flammable limit (% by vol.)	: No information available.
Auto-ignition temperature	: No information available.
Decomposition temperature	: No information available.
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Initial boiling point and boiling range	: No information available.
Melting/Freezing point	: No information available.
Relative density	: No information available.
Solubility in water	: Soluble
Other solubility(ies)	: No information available.
Vapour pressure	: No information available.
Vapour density	: No information available.
Partition coefficient: n-octanol/water	: No information available.
Viscosity	: No information available.
Evaporation rate (BuAe = 1)	: No information available.
Particle characteristics	: Not applicable.

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9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: None known or reported by the manufacturer.

10.6 Hazardous decomposition products

: None known or reported by the manufacturer.

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:

- Acute toxicity** : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.
- Skin corrosion/Irritation** : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.
- Serious eye damage/Irritation** : According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
- Respiratory or skin sensitisation** : According to the classification criteria of the European Union, this product is not considered as being an allergic respiratory sensitiser.
According to the classification criteria of the European Union, this product is not considered as being an allergic skin sensitiser.
- Germ cell mutagenicity** : Contains no ingredient listed as a mutagen.
- Carcinogenicity** : Contains no ingredient listed as a carcinogen
- Reproductive toxicity** : Contains no ingredient listed as toxic to reproduction.
- STOT-single exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.
- STOT-repeated exposure** : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.
- Aspiration hazard** : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.
- Routes of exposure** : Inhalation; Skin contact; Eye contact; Ingestion
- Effects of acute exposure** : Inhalation: Fumes from heated product may irritate respiratory tract. May cause coughing and breathing difficulties.
- Skin contact: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
- Eye contact: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Potential Chronic Health Effects** : None known or reported by the manufacturer.
- Information on other Hazards** : Incomplete toxicological data are available for this product.

11.1.1 Acute Toxicity

- Toxicological data** : No data is available on the product itself. See below for individual ingredient acute toxicity data.

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

<u>Chemical name</u>	LC₅₀(4hr)	LD₅₀	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Oligodeoxyribonucleic acid, modified	No information available.	No information available.	No information available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

12.2 Persistence and degradability

: The product itself has not been tested.

12.3 Bioaccumulation potential

: The product itself has not been tested.

12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance(s) above reportable levels which are considered to be persistent, bioaccumulating nor toxic (PBT), or very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Methods of Disposal : Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

SECTION 14. TRANSPORTATION INFORMATION					
<i>Regulatory Information</i>	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	<i>Label</i>
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

- : Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended:

None of the components are specifically listed.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

None of the components are specifically listed.

Directive 94/33/EC on the protection of young people at work: None of the components are specifically listed.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2015/830].

Follow national regulation for work with chemical agents.

German legislation on substances that are hazardous to water AwSV: Water hazard class (Germany) - 1 (self classified)

15.2 Chemical safety assessment

- : A chemical safety assessment has not been carried out by the Manufacturer of this product.

SAFETY DATA SHEET

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SECTION 16. OTHER INFORMATION

Legend

- : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS: Chemical Abstract Services
- EC: European Community
- EC50: Effective Concentration 50%
- EEC: European Economic Community
- EU: European Union
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organisation
- IMDG: International Maritime Dangerous Goods
- LC: Lethal Concentration
- LD: Lethal Dose
- OECD: Organisation for Economic Co-operation and Development
- OEL: National occupational exposure limits
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- STEL: Short Term Exposure Limit
- TWA: Time Weighted Average
- WEL: Workplace Exposure Limit

Information Source

- : 1. Material Safety Data Sheet from manufacturer.
- 2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases
- 3. European Chemicals Agency, Classification Legislation

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This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

Regulation and Procedure :

Not applicable.

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.

<p>Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401</p>	
<p>Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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