Akoya Biosciences, Inc.
100 Campus Dr,6th Floor
Marlborough, MA, USA, 01752
Telephone: (855) 896 8401

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **PhenoCycler™ Barcode Kit - PhenoCycler Barcode**

Other means of identification :

232076	232078	232081	232084	232087	232090	232093	232096	232097	232100
232102	232104	232077	232079	232082	232085	232088	232091	232094	232098
232103	232075	232080	232083	232086	232089	232092	232095	232099	232101
240007	240008	240009	240010	240011	240012	240013	240014	240015	240016
240054	240055	240056	240057	240085	240086	240105	240087	240113	240088
240089	240090	240091	240092	240093	240094	240095	240096	240097	240098
240099	240100	240101	240102	240103	240104	240106	240107	240108	240109
240110	240111	240112	240113	240114	240115	240116	240117	240118	240119
240136	240143	240164	240165	240216	200019	240222	240256	240140	240141
240148	240149	240150	240153	240233	240207	200001	200002	240138	240139
240146	240160	200008	240156	240235	200004	240209	240210	200006	240241
240211	200009	240214	200020	240224	240120	240121	240122	240123	240124

Recommended use of the chemical and restrictions on use

: Reagent for tagging a single custom antibody for use with the PhenoCycler assay.
Used in PhenoCycler MPI fluidics instrument.
Use pattern: Consumers; professional use

Chemical family : Modified synthetic DNA.

Name, address, and telephone number of the supplier:

Akoya Biosciences, Inc.

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

Supplier's Telephone # : (855) 896 8401

Name, address, and telephone number of the manufacturer:

Refer to supplier

24 Hr. Emergency Tel # : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

White powder. 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.
This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

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Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Other hazards

Other hazards which do not result in classification:
May cause slight eye and skin irritation. If dusts are formed, dusts may be irritating to the eyes, skin and respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Modified synthetic DNA.

The following substances shall be indicated according to legislation:

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Oligodeoxyribonucleic acid, modified	DNA	N/Av	**No information available.**

SECTION 4. FIRST-AID MEASURES

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.

Most important symptoms and effects, both acute and delayed

: Incomplete toxicological data are available for this product.
If dusts are formed, inhalation may cause adverse lung effects. May cause coughing and breathing difficulties.
Dust contact with the eyes can lead to mechanical irritation. Symptoms may include stinging and tearing.
Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

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.

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Unsuitable extinguishing media

: None known.

Special hazards arising from the substance or mixture / Conditions of flammability

: Burning may produce irritating, toxic and obnoxious fumes. .

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Carbon oxides

Special protective equipment and precautions 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

Personal precautions, protective equipment and emergency procedures

: Wear appropriate protective equipment.

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

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. Vacuum or sweep up spilled material using a method that does not generate airbourne dust. 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.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).

SECTION 7. HANDLING AND STORAGE

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.

Conditions for safe storage : 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).
Recommended storage temperature: - 20°C
.

Incompatible materials : None known or reported by the manufacturer.

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	N/Av

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. 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 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : White powder
Odour : No odour.
Odour threshold : No information available.
pH : No information available.
Melting Point/Freezing point : No information available.
Initial boiling point and boiling range
: Not applicable.
Flash point : Not applicable.
Flashpoint (Method) : Not applicable.
Evaporation rate (BuAe = 1) : No information available.
Flammability (solid, gas) : Not applicable.
Lower flammable limit (% by vol.)
: Not applicable.
Upper flammable limit (% by vol.)
: Not applicable.
Oxidizing properties : None known.

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Explosive properties : Not explosive
Vapour pressure : No information available.
Vapour density : No information available.
Relative density / Specific gravity
: No information available.
Solubility in water : Soluble
Other solubility(ies) : No information available.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: No information available.
Auto-ignition temperature : No information available.
Decomposition temperature : No information available.
Viscosity : Not applicable.
Volatiles (% by weight) : No information available.
Volatile organic Compounds (VOC's)
: No information available.
Absolute pressure of container
: Not applicable.
Flame projection length : Not applicable.
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

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

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption
: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation
: Inhalation of dusts may cause respiratory irritation.

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

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Sign and symptoms skin : Direct skin contact may cause slight or mild, transient irritation.

Sign and symptoms eyes : Direct eye contact may cause slight or mild, transient irritation.

Potential Chronic Health Effects
: None known or reported by the manufacturer.

Mutagenicity : Contains no ingredient listed as a mutagen.

Carcinogenicity : Contains no ingredient listed as a carcinogen

Reproductive effects & Teratogenicity
: Contains no ingredient listed as toxic to reproduction.

Sensitization to material : Not expected to be a skin or respiratory sensitizer.

Specific target organ effects : According to the classification criteria of U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause target organ toxicity through single or repeated exposures.

Medical conditions aggravated by overexposure
: None known.

Synergistic materials : None known.

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

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Oligodeoxyribonucleic acid, modified	No information available.	No information available.	No information available.

Other important toxicological hazards
: Incomplete toxicological data are available for this product.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : 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 #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	No information available.	None.

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Ingredients	CAS #	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.

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

Bioaccumulation potential : The product itself has not been tested.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)

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

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.

SECTION 13. DISPOSAL CONSIDERATIONS

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 in accordance with all applicable federal, state, provincial and local regulations.

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261.

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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
49CFR/DOT Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	None.				

Special precautions for user : Appropriate advice on safety must accompany the package.

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.

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

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Oligodeoxyribonucleic acid, modified	N/Av	NL	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312 SDS Requirements, 40 CFR 370 Hazard Classes: Not a hazard under normal conditions of use.

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US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Oligodeoxyribonucleic acid, modified	N/Av	No	N/Ap	No	No	No	No	No	No

Canadian Information:

All ingredients are listed on the DSL, or are exempted materials.

International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Oligodeoxyribonucleic acid, modified	N/Av	No information available.	Not specifically listed.	Not listed.	Not specifically listed.	Not specifically listed.	Not specifically listed.	Not specifically listed.

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
EC50: Effective Concentration 50%
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration /LD: Lethal Dose
N/Ap: Not Applicable /N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations

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TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average

References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices
2. ECHA - European Chemical Agency
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
4. Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists
6. California Proposition 65 List
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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

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: 22/12/2022

Revision No. : 2

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

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

Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	

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