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

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Product identifier used on the label
: **PhenoCycler (Formerly CODEX™) Assay Kit - Nuclear Stain**

Other means of identification : 232121, 7000003

Recommended use of the chemical and restrictions on use
: Research and development only.
No restrictions on use known.

Chemical family : Mixture

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

Yellow liquid. Odorless.

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.

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:
Toxic fumes, gases or vapours may evolve on burning. 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.

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SAFETY DATA SHEET

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
No hazardous ingredients	Not applicable.	N/Av	**Not applicable.**

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

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. 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.

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.

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.

Unsuitable extinguishing media

: None known.

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

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

Hazardous combustion products

: Carbon oxides;Hydrogen chloride ;Nitrogen 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.

SAFETY DATA SHEET

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

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. 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.

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).
US CERCLA Reportable quantity (RQ): See section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

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 away from incompatibles. 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. Keep away from incompatibles. Recommended storage temperature: -20°C

Incompatible materials : Strong oxidizers.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	**ACGIH TLV**		**OSHA PEL**	
	TWA	**STEL**	**PEL**	**STEL**
No hazardous ingredients	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 : If airbourne 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.

SAFETY DATA SHEET

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 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 : Yellow liquid.

Odour : Odorless.

Odour threshold : N/Av

pH : N/Ap

Melting Point/Freezing point : N/Ap

Initial boiling point and boiling range

: >100°C °C17428□11□(based on ingredients)□

Flash point : >93.3°C(based on ingredients)

Flashpoint (Method) : N/Av

Evaporation rate (BuAe = 1) : N/Av

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

: N/Av

Upper flammable limit (% by vol.)

: N/Av

Oxidizing properties : None.

Explosive properties : Not explosive

Vapour pressure : N/Ap

Vapour density : N/Ap

Relative density / Specific gravity

: N/Ap

Solubility in water : Soluble

Other solubility(ies) : N/Av

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: N/Av

Auto-ignition temperature : N/Av

Decomposition temperature : N/Ap

Viscosity : N/Av

Volatiles (% by weight) : N/Av

Volatile organic Compounds (VOC's)

: N/Av

Absolute pressure of container

: N/Ap

Flame projection length : N/Ap

Other physical/chemical comments

: No additional information.

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SAFETY DATA SHEET

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 : Strong oxidizing agents

Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

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

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

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

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

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

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 effects & Teratogenicity
: This product is not expected to cause reproductive or developmental effects.

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

Specific target organ effects : According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.

Medical conditions aggravated by overexposure
: Pre-existing skin, eye and respiratory disorders.

Synergistic materials : None known or reported by the manufacturer.

Toxicological data : There is no data available for this product.

SAFETY DATA SHEET

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
No hazardous ingredients	N/Av	N/Av	N/Av

Other important toxicological hazards
: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : 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:

Ingredients	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	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)
No hazardous ingredients (CAS N/Av)	N/Av	N/Av

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

SAFETY DATA SHEET

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.

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. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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.				
TDG	None.	Not regulated.	not regulated	none	
TDG 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.				

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:

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SAFETY DATA SHEET

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
No hazardous ingredients	N/Av	NS	None.	None.	NS	NS

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

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
No hazardous ingredients	N/Av	No		NS	NS	NS	NS	NS	NS

Canadian Information:

Canadian Environmental Protection Act (CEPA): 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
No hazardous ingredients	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

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

SAFETY DATA SHEET

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
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) : 12/16/2022

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	

DISCLAIMER

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