SAFETY DATA SHEET

Creation Date 24-April-2023 **Revision Date** 19-December-2025 **Revision Number** 8

This safety data sheet was created pursuant to the requirements of: Canada WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) - SOR 2022-272

1. Identification

Product Name **Sodium cyanide**

Cat No. : **AC370310000; AC370310010; AC370310050**

CAS-No 143-33-9
Synonyms No information available

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Importer/Distributor
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Manufacturer
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification This product is hazardous in accordance with the Canada Hazardous Products Act (HPA) and Hazardous Products Regulation (HPR), as amended (SOR/2022-272)

Acute oral toxicity	Category 1
Acute dermal toxicity	Category 1
Acute Inhalation Toxicity	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (repeated exposure)	Category 1
Health Hazards Not Otherwise Classified	Category 1

Contact with acids liberates very toxic gas

Label Elements

Signal Word

Danger

Hazard Statements
Fatal if swallowed, in contact with skin or if inhaled
Causes skin irritation
Causes serious eye irritation
Causes damage to organs through prolonged or repeated exposure
Contact with acids liberates very toxic gas

Precautionary Statements
Prevention
Take any precaution to avoid mixing with acids
Do not breathe dust/fumes/gas/mist/vapours/spray
Wear respiratory protection
Do not get in eyes, on skin, or on clothing
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER/doctor
IF ON SKIN: Wash with plenty of soap and water
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Rinse mouth
Take off immediately all contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant

Other Hazards
Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Sodium cyanide	143-33-9	<100
Sodium hydroxide	1310-73-2	0.3-0.8

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical

	advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms/effects	Systemic Toxicity: Respiratory disorders: Symptoms may include tightness in the chest, flushing, headache, nausea, vomiting, respiratory depression, weakness, irregular heartbeat, abdominal pain, convulsions, and shock: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood): Exposure may result in death
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Non-combustible. Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products
Nitrogen oxides (NOx). Hydrogen cyanide (hydrocyanic acid).
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
4	0	1	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.
Methods for Containment and Clean Up	Provide adequate ventilation. Wear self-contained breathing apparatus and protective suit. Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Do not expose spill to water. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

Storage.

Store under an inert atmosphere. Keep container tightly closed in a dry and well-ventilated place. Air sensitive. Incompatible Materials. Acids. Strong oxidizing agents. Carbon dioxide (CO2). Metals.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Alberta	British Columbia	Ontario TWAEV	Quebec
Sodium cyanide	Ceiling: 5 mg/m³ Skin	Ceiling: 5 mg/m³ Skin	CEV: 5 mg/m³ Skin	Ceiling: 10 ppm Ceiling: 11 mg/m³ Skin
Sodium hydroxide	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	CEV: 2 mg/m³	Ceiling: 2 mg/m³

Component	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia
Sodium cyanide	Ceiling: 5 mg/m³ Skin	Ceiling: 5 mg/m³ Skin	Ceiling: 5 mg/m³ Skin	Ceiling: 5 mg/m³ Skin
Sodium hydroxide	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³

Component	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Sodium cyanide	Ceiling: 5 mg/m³ Skin	Ceiling: 5 mg/m³	Ceiling: 5 mg/m³ Ceiling: 4.7 ppm Skin	TWA: 5 mg/m³ STEL: 5 mg/m³ Skin
Sodium hydroxide	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³

Component	ACGIH TLV	OSHA PEL	NIOSH
Sodium cyanide 143-33-9 (<100)	Ceiling: 5 mg/m³ Skin	(Vacated) TWA: 5 mg/m³	IDLH: 25 mg/m³ Ceiling: 4.7 ppm Ceiling: 5 mg/m³
Sodium hydroxide 1310-73-2 (0.3-0.8)	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³ TWA: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles
Hand Protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Glove material	Breakthrough time	Glove thickness	Glove comments
Butyl rubber	> 480 minutes	0.35 mm	As tested under EN374-3
Viton (R)	> 480 minutes	0.5 mm	Determination of Resistance to Permeation by Chemicals

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
Recommended Filter type: Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls
Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

Appearance

Physical State	Solid	
Color	White	
Odor	bitter almonds	
Odor Threshold	No information available	

Property	**Values**	**Remarks • Method**
Melting Point/Range	562 °C / 1043.6 °F	
Softening Point	No data available	
Boiling Point/Range	1496 °C / 2724.8 °F	
Flash Point	No information available	**Method -** No information available
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
pH	11-12	20 g/l aq. sol
Viscosity	Not applicable	Solid
Water Solubility	370 g/L (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	**log Pow**	
Sodium cyanide	-0.44	
Vapor Pressure	1 hPa (817°C)	
Density / Specific Gravity	No data available	
Bulk Density	750 - 950 kg/m^3	
Vapor Density	Not applicable	Solid
Particle characteristics	No data available	

Other Information

Molecular Formula	C N Na
Molecular Weight	49
Evaporation Rate	Not applicable - Solid

10. Stability and reactivity

Reactive Hazard Yes

Stability Hygroscopic.

Conditions to Avoid Incompatible products. Exposure to moist air or water.

Incompatible Materials Acids, Strong oxidizing agents, Carbon dioxide (CO2), Metals

Hazardous Decomposition Products Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation Not an expected route of exposure.
Ingestion May be harmful if swallowed.
Eyes Avoid contact with eyes.
Skin Avoid contact with skin. Harmful in contact with skin.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium cyanide	LD50 = 5.733 mg/kg (Rat)	LD50 = 14.602 mg/kg (Rabbit)	LC50 = 0.16 mg/L (Rat) 1 h
Sodium hydroxide	140 - 340 mg/kg (Rat)	1350 mg/kg (Rabbit)	-

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

Not mutagenic in AMES Test

(f) carcinogenicity; Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Sodium cyanide	143-33-9	Not listed	Not listed	Not listed	Not listed	Not listed
Sodium hydroxide	1310-73-2	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Category 1

Target Organs Thyroid, Blood.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects,both acute and delayed Systemic Toxicity. Respiratory disorders. Symptoms may include tightness in the chest, flushing, headache, nausea, vomiting, respiratory depression, weakness, irregular heartbeat, abdominal pain, convulsions, and shock. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Exposure may result in death.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sodium cyanide	Not listed	LC50: 0.0558 - 0.0586 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.0391 - 0.0548 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 0.15 mg/L, 96h static (Lepomis macrochirus) LC50: 0.0712 - 0.0936 mg/L, 96h flow-through (Pimephales promelas) LC50: = 0.17 mg/L, 96h static (Pimephales promelas) LC50: 0.066 - 0.0852 mg/L, 96h flow-through (Lepomis macrochirus)	Not listed	Not listed
Sodium hydroxide	Not listed	LC50 = 45.4 mg/L, 96h static (Oncorhynchus mykiss)	Not listed	Not listed

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Sodium cyanide	-0.44

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Sodium cyanide - 143-33-9	-	not otherwise specified

14. Transport information

DOT

UN-No UN1689
Proper Shipping Name SODIUM CYANIDE, SOLID
Hazard Class 6.1
Packing Group I

TDG

UN-No UN1689
Proper Shipping Name SODIUM CYANIDE, SOLID
Hazard Class 6.1
Packing Group I

IATA

UN-No UN1689
Proper Shipping Name SODIUM CYANIDE, SOLID
Hazard Class 6.1
Packing Group I

IMDG/IMO

UN-No UN1689
Proper Shipping Name SODIUM CYANIDE, SOLID
Hazard Class 6.1
Packing Group I

15. Regulatory information

International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Sodium cyanide	143-33-9	X	-	X	ACTIVE	205-599-4	-	-
Sodium hydroxide	1310-73-2	X	-	X	ACTIVE	215-185-5	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Sodium cyanide	143-33-9	X	KE-31401	X	X	X	X	X	X
Sodium hydroxide	1310-73-2	X	KE-31487	X	X	X	X	X	X

Legend:
X - Listed '-' - Not listed
KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and its amendments and meets the requirements of the HPR (Paragraph 13(1)(a) of the revised Hazardous Products Act (HPA)).

Component	Canada - National Pollutant	Canadian Environmental	Canada's Chemicals Management

	Release Inventory (NPRI)	Protection Agency (CEPA) - List of Toxic Substances	Plan (CEPA)
Sodium cyanide	Part 1, Group A Substance		

Legend NPRI - National Pollutant Release Inventory

Other International Regulations

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Sodium cyanide	-	Use restricted. See entry 75. (see link for restriction details)	-
Sodium hydroxide	-	Use restricted. See entry 75. (see link for restriction details)	-

REACH links
https://echa.europa.eu/substances-restricted-under-reach

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?
Not applicable

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

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Sodium cyanide	143-33-9	Listed	Not applicable	Not applicable	Not applicable
Sodium hydroxide	1310-73-2	Listed	Not applicable	Not applicable	Not applicable

Component	CAS-No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Sodium cyanide	143-33-9	Not applicable	Not applicable	Not applicable	Annex I - Y33
Sodium hydroxide	1310-73-2	Not applicable	Not applicable	Not applicable	Annex I - Y35

16. Other information

Prepared By Product stewardship (Regulatory Affairs)
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Revision Summary This document has been updated to comply with the requirements of WHMIS 2015 which includes the amended Hazardous Products Act (HPA) and the Hazardous Products Regulation (HPR) to align with the Globally Harmonised System (GHS) (V7/8) for the Classification and Labelling of Chemicals.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS