

SAFETY DATA SHEET

Creation Date 15-February-2010

Revision Date 18-December-2025

Revision Number 7

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 Potassium thiocyanate

Cat No. : P317-100; P317-500

CAS-No 333-20-0

Synonyms Potassium rhodanate; Potassium sulfocyanate; Potassium sulfocyanide; Potassium isothiocyanate (Crystalline/Certified ACS)

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

Manufacturer

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

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 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 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity	Category 4
Health Hazards Not Otherwise Classified	Category 1
Contact with acids liberates very toxic gas (HCN)	

Label Elements

Signal Word

Danger

Hazard Statements

Harmful if swallowed, in contact with skin or if inhaled

Harmful if inhaled

Contact with acids liberates very toxic gas (HCN)

**Precautionary Statements****Prevention**

Take any precaution to avoid mixing with acids

Do not breathe dust/fumes/gas/mist/vapours/spray

Wear respiratory protection

Avoid breathing dust/fume/gas/mist/vapors/spray

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

Call a POISON CENTER/ doctor if you feel unwell

Rinse mouth

Take off contaminated clothing and wash it before reuse

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

Light sensitive

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Potassium thiocyanate	333-20-0	>95

4. First-aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation

Remove to fresh air. 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. If not breathing, give artificial respiration.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms/effects	. Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood)
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
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Nitrogen oxides (NOx). Sulfur oxides. Potassium oxides.

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 2	Flammability 1	Instability 1	Physical hazards N/A
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6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Avoid contact with skin and eyes. Keep people away from and upwind of spill/leak.
Environmental Precautions	Do not flush into surface water or sanitary sewer system. Avoid release to the environment. Collect spillage. See Section 12 for additional Ecological Information.
Methods for Containment and Clean Up	Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling	Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
Storage.	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from acids. Incompatible Materials. Strong oxidizing agents. Acids. Strong bases.

8. Exposure controls / personal protection

Exposure Guidelines

Component	Alberta	British Columbia	Ontario TWAEV	Quebec
Potassium thiocyanate	-	-	-	Ceiling: 10 ppm Ceiling: 11 mg/m ³ Skin

Component	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Potassium thiocyanate				TWA: 5 mg/m ³ STEL: 5 mg/m ³ Skin

Component	ACGIH TLV	OSHA PEL	NIOSH
Potassium thiocyanate 333-20-0 (>95)		(Vacated) TWA: 5 mg/m ³	IDLH: 25 mg/m ³

Legend

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.

Ensure adequate ventilation, especially in confined areas.

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**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	> 480 minutes	0.6 mm	As tested under EN374-3 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 compatibility, 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.

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 Crystalline Solid
Color Colorless - White
Odor Odorless
Odor Threshold No information available

Property

Values
Melting Point/Range 170 - 179 °C / 338 - 354.2 °F
Softening Point No data available
Boiling Point/Range Decomposes
Flash Point No information available
Flammability (liquid) Not applicable
Flammability (solid,gas) No information available
Explosion Limits No data available

Remarks**• Method**

Autoignition Temperature No data available
Decomposition Temperature 500 °C
pH 5.3-8.7
Viscosity Not applicable
Water Solubility 2170 g/L (20°C)
Solubility in other solvents No information available
Partition Coefficient (n-octanol/water)
Vapor Pressure <1 hPa @ 20 °C
Density / Specific Gravity 1.886
Bulk Density 750 - 1000 kg/m³
Vapor Density Not applicable
Particle characteristics No data available

Method - No information available
Solid
5% aq.solution
Solid

Other Information

Molecular Formula C K N S
Molecular Weight 97.18
Oxidizing Properties Not oxidising
Evaporation Rate Not applicable - Solid

10. Stability and reactivity

Reactive Hazard Yes

Stability Light sensitive. Moisture sensitive. Air sensitive.

Conditions to Avoid Incompatible products. Excess heat. Avoid dust formation. Exposure to light. Exposure to moist air or water. Exposure to air.

Incompatible Materials Strong oxidizing agents, Acids, Strong bases

Hazardous Decomposition Products Nitrogen oxides (NOx), Sulfur oxides, Potassium oxides

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions Contact with acids liberates very toxic gas.

11. Toxicological information

Information on expected route of exposure

Inhalation Harmful by inhalation. May cause irritation of respiratory tract.
Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Eyes May cause irritation.
Skin Harmful in contact with skin. May cause irritation.

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium thiocyanate	LD50 = 854 mg/kg (Rat)	LD50 > 2000 mg/kg (Rat)	-

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

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

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Potassium thiocyanate	333-20-0	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects, both acute and delayed Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness, and possible death. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

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

Harmful 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
Potassium thiocyanate	Not listed	Oncorhynchus mykiss:	Not listed	Daphnia Magna: EC50: 2.8

	LC50: 11 mg/l/96h	mg/l/96h
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.	

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.
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14. Transport information

DOT	Not regulated
TDG	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated

15. Regulatory information

International Inventories

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Potassium thiocyanate	333-20-0	X	-	X	ACTIVE	206-370-1	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Potassium thiocyanate	333-20-0	X	KE-29216	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 Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
Potassium thiocyanate	Part 1, Group A Substance		

Other International Regulations

Authorisation/Restrictions according to EU REACH Not applicable

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)
Potassium thiocyanate	333-20-0	Not applicable	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)
Potassium thiocyanate	333-20-0	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
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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

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End of SDS