

SAFETY DATA SHEET

Creation Date 21-Jan-2011

Revision Date 19-Dec-2025

Revision Number 9

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

1. Identification

Product Name Potassium cyanide

Cat No. : AC388310000; AC388310025; AC388310100; AC388311000; AC388315000

CAS No 151-50-8
Synonyms Cyanide of potassium; Hydrocyanic acid, potassium salt; KCN.

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

Details of the supplier of the safety data sheet

Company

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

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

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

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Corrosive to metals	Category 1
Acute oral toxicity	Category 1
Acute dermal toxicity	Category 1
Acute Inhalation Toxicity - Dusts and Mists	Category 1
Specific target organ toxicity - (repeated exposure)	Category 1
Target Organs - Heart, Cardiovascular system.	

Label Elements

Signal Word

Danger

Hazard Statements

May be corrosive to metals

Causes damage to organs through prolonged or repeated exposure

Fatal if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not get in eyes, on skin, or on clothing

Wear protective gloves/protective clothing/eye protection/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Keep only in original packaging

Response

Get medical attention/advice if you feel unwell

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

Skin

Immediately call a POISON CENTER or doctor

IF ON SKIN: Wash with plenty of soap and water

Take off immediately all contaminated clothing

Take off contaminated clothing and wash before reuse

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Rinse mouth

Spills

Absorb spillage to prevent material damage

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Store in corrosive resistant polypropylene container with a resistant inliner

Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

Hazards classified under paragraph (d)(1)(ii) of 1910.1200**Hazards resulting from a reaction with other chemicals under normal conditions of use**

Contact with acids liberates very toxic gas. Contact with acids liberates toxic gas.

WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>.

3. Composition/information on Ingredients

Component	CAS No	Weight %
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Potassium cyanide	151-50-8	>95
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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 and 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

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	Not applicable
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). 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
4

Flammability
0

Instability
1

Physical hazards
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.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and Storage

Handling Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. 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. Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep locked up. Keep away from acids. Keep away from combustible material. Do not store in aluminum containers. Incompatible Materials. Acids. Strong oxidizing agents. Bases. Finely powdered metals. Aldehydes. Peroxides. Metals.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Potassium cyanide	Ceiling: 5 mg/m ³ Skin	(Vacated) TWA: 5 mg/m ³	IDLH: 25 mg/m ³ Ceiling: 4.7 ppm Ceiling: 5 mg/m ³	Ceiling: 5 mg/m ³

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 Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face 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.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection 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.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Physical State	Powder Solid		
Color	White		
Odor	bitter almonds		
Odor Threshold	No information available		
<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>• Method</u>
Melting Point/Range	634 °C / 1173.2 °F		
Softening Point	No data available		
Boiling Point/Range	1625 °C / 2957 °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	Not applicable		
Decomposition Temperature	No data available		
pH	11-12	20 g/l aq.sol.(20°C)	
Viscosity	Not applicable	Solid	
Water Solubility	400 g/L (20°C)		
Solubility in other solvents	No information available		
Partition Coefficient (n-octanol/water)			
Vapor Pressure	No data available		
Density / Specific Gravity	1.52 @ 16°C		
Bulk Density	No data available		
Vapor Density	Not applicable	Solid	
Particle characteristics	No data available		
<u>Other Information</u>			
Molecular Formula	C K N		
Molecular Weight	65.12		
Evaporation Rate	Not applicable - Solid		

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Moisture sensitive.
Conditions to Avoid	Excess heat. Burning produces obnoxious and toxic fumes. Incompatible products. Exposure to light. Exposure to moist air or water. Exposure to air.
Incompatible Materials	Acids, Strong oxidizing agents, Bases, Finely powdered metals, Aldehydes, Peroxides, Metals
Hazardous Decomposition Products	Nitrogen oxides (NOx), Hydrogen cyanide (hydrocyanic acid), Potassium oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Information on expected route of exposure

Inhalation	Toxic by inhalation. Avoid breathing dust or spray mist.
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
Potassium cyanide	LD50 = 7.49 mg/kg (Rat)	LD50 = 22.3 mg/kg (Rabbit)	LC50 = 0.16 mg/L (Rat) 1 h

Toxicologically Synergistic Products No information available

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(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

(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
Potassium cyanide	151-50-8	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 Heart, Thyroid, Cardiovascular system, Central nervous system (CNS).

(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
Potassium cyanide	Not listed	LC50: 0.31 - 0.37 mg/L, 96h	Not listed	Not listed

		static (Pimephales promelas) LC50: = 0.0588 mg/L, 96h flow-through (Poecilia reticulata) LC50: 0.45 - 0.57 mg/L, 96h flow-through (Lepomis macrochirus) LC50: = 0.45 mg/L, 96h (Lepomis macrochirus) LC50: 0.01 - 0.08 mg/L, 96h static (Lepomis macrochirus) LC50: 0.044 - 0.084 mg/L, 96h static (Oncorhynchus mykiss) LC50: 0.04 - 0.046 mg/L, 96h flow-through (Oncorhynchus mykiss)		
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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.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Potassium cyanide - 151-50-8	-	not otherwise specified

14. Transport information

DOT

UN-No UN1680
 Proper Shipping Name POTASSIUM CYANIDE, SOLID
 Hazard Class 6.1
 Packing Group I

TDG

UN-No UN1680
 Proper Shipping Name POTASSIUM CYANIDE, SOLID
 Hazard Class 6.1
 Packing Group I

IATA

UN-No UN1680
 Proper Shipping Name POTASSIUM CYANIDE, SOLID
 Hazard Class 6.1
 Packing Group I

IMDG/IMO

UN-No UN1680
 Proper Shipping Name POTASSIUM CYANIDE, SOLID
 Hazard Class 6.1
 Packing Group I

15. Regulatory Information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Potassium cyanide	151-50-8	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Potassium cyanide	151-50-8	X	-	205-792-3	X	X	X	X	X	KE-29092

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Potassium cyanide	151-50-8	>95	1.0 %	-

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Potassium cyanide	X	10 lb	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Potassium cyanide	X		-

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Potassium cyanide	10 lb	10 lb	10 lb 4.54 kg

California Proposition 65

This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Potassium cyanide	151-50-8	Male Reproductive	-	Developmental

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Potassium cyanide	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant Y
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Legend - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Potassium cyanide	APA

Other International Regulations

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	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)
Potassium cyanide	151-50-8	-	Use restricted. See entry 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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 cyanide	151-50-8	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

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 cyanide	151-50-8	Not applicable	Not applicable	Not applicable	Annex I - Y33

16. Other Information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
Creation Date	21-Jan-2011
Revision Date	19-Dec-2025
Print Date	19-Dec-2025
Revision Summary	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

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