

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: Potassium Cyanide

Product Code(s): P1100

Synonyms: Cyanide, Potassium Salt

Recommended Use: For manufacturing, industrial, and laboratory use only. Use as a catalyst or as a laboratory solute.

Uses Advised Against: Not for food, drug, or household use.

Supplier: Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (CHEM-TEL)

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Acute Toxicity – Oral:	Category 1
Acute Toxicity – Dermal:	Category 1
Acute Toxicity – Inhalation:	Category 2
Specific Target Organ Toxicity (Single Exposure):	Category 1
Specific Target Organ Toxicity (Repeated Exposure):	Category 1
Corrosive to Metals:	Category 1

Signal Word: DANGER

Hazard Statements:

- Fatal if swallowed.
- Fatal in contact with skin.
- Fatal if inhaled.
- Causes damage to organs.
- Causes damage to organs through prolonged or repeated exposure.
- May be corrosive to metals.

Pictograms:



Precautionary Statements:

Prevention:	Wash 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 and protective clothing. Do not breathe dusts. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation, wear respiratory protection. Keep only in original container.
Response:	If exposed: Immediately call a poison center or doctor. Follow specific treatment procedures (see Section 4 or product label). Get medical attention if you feel unwell. If swallowed: Rinse mouth. If on skin: Wash with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Absorb spillage to prevent material damage.
Storage:	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.
Disposal:	Dispose of contents and container in accordance with local, regional, national, and international regulations.
Hazards Not Otherwise Classified:	Very toxic to aquatic life with long-lasting effects. Avoid release to the environment.
Toxicity Statement:	Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Potassium Cyanide	Cyanide, Potassium Salt	151-50-8	KCN	≥ 96.0

Trade Secret Statement: Not applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
Ingestion:	Do not induce vomiting. If vomiting occurs, keep head low so that vomit does not enter lungs. Administer antidote kit and oxygen per pre-planned instructions. If patient is conscious, immediately give activated charcoal slurry. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:	Wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.

Eye Contact: Check for and remove contact lenses, if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Immediate medical attention is required. Get medical attention immediately.

General Advice: Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that those providing first aid and medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Symptoms and Effects: Poison. Inhalation may cause burns, coughing, hoarseness, suffocation, and death. Ingestion may cause death, burns, skin discoloration, central nervous system effects, nausea, and vomiting. Skin contact may cause burns, skin discoloration, and death. Eye contact may cause burns.

**Immediate Medical Care/
Special Treatment:** Call a physician immediately if feeling unwell or concerned. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry powder, alcohol resistant foam.

Unsuitable Extinguishing Media: Do not use carbon dioxide. Do not use water.

Hazardous Combustion Products: Potassium oxides, carbon oxides, nitrogen oxides, hydrogen cyanide.

Specific Hazards: Excessive thermal conditions may cause decomposition and yield corrosive and/or toxic fumes.

**Special Protective Equipment/
Precautions for Firefighters:** As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.

Emergency Procedures: Evacuate surrounding personnel as needed. In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

Methods for Containment: Prevent entry into waterways, sewer, basements, or confined areas. Avoid generation of product as dust. Product should not be released to the environment. Contain and recover solid when possible.

Methods for Cleanup: Sweep or collect spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleeces) and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see Section 8). Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes, and clothing. Avoid generation of dust. Do not breathe product dust. Avoid exposure to moisture. Limit exposure to light. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials

(see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage:

Store in a cool, dry, ventilated area. Store in a segregated and approved area away from heat and incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

OSHA PEL (TWA):	5 mg/m ³
ACGIH TLV (Ceiling):	5 mg/m ³
NIOSH REL (Ceiling):	5 mg/m ³
	4.78 ppm

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or safety goggles. Wear a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Specific Requirements for Personal Protective Equipment: Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance:	White, granular solid.
Odor:	Slight, almond-like.
Odor Threshold:	No information found.
Formula Weight:	65.12
pH:	11.2 (20 g/L aqueous at 20 °C)
Melting/Freezing Point:	634.5 °C
Boiling Point/Range:	1625 °C
Decomposition Temperature:	No information found.
Flash Point:	Not applicable.

Auto-ignition Temperature:	Not applicable.
Flammability:	Not flammable.
Flammability/Explosive Limits:	Not applicable.
Solubility:	Soluble in water. Slightly soluble in alcohol.
Vapor Pressure:	No information found.
Vapor Density:	No information found.
Specific Gravity:	1.53 (Water = 1)
Evaporation Rate:	No information found.
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	No information found. May be corrosive to metals.
Chemical Stability:	Stable under normal conditions. Sensitive to moisture. Sensitive to light.
Conditions to Avoid:	Excessive heat, moisture, exposure to light, incompatible materials.
Incompatible Materials:	Acids, oxidizers, carbon dioxide, metallic salts, alkaloids.
Hazardous Decomposition Products:	Potassium oxides, carbon oxides, nitrogen oxides, hydrogen cyanide.
Possibility of Hazardous Reactions:	May react vigorously or violently with the incompatible materials listed above. Contact with acids or carbon dioxide may yield hazardous hydrogen cyanide. Excessive thermal conditions may yield hazardous decomposition products listed above.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure:	Inhalation, ingestion, skin contact, eye contact.						
Acute Effects:	Poison. Fatal if swallowed. May be fatal if absorbed through the skin or inhaled. May cause damage to heart, brain, reproductive organs, liver, and central nervous system.						
Chronic Effects:	Prolonged or repeated exposure may cause thyroid damage; may cause mutagenic effects, reproductive effects, and teratogenic effects.						
Toxicological Data:	<table> <tr> <td>LD₅₀ Oral, Rat:</td> <td>5 mg/kg</td> </tr> <tr> <td>LD₅₀ Dermal, Rabbit:</td> <td>22.3 mg/kg</td> </tr> <tr> <td>LC₅₀ Inhalation, Rat:</td> <td>0.16 mg/kg 1 h</td> </tr> </table>	LD ₅₀ Oral, Rat:	5 mg/kg	LD ₅₀ Dermal, Rabbit:	22.3 mg/kg	LC ₅₀ Inhalation, Rat:	0.16 mg/kg 1 h
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LD ₅₀ Dermal, Rabbit:	22.3 mg/kg						
LC ₅₀ Inhalation, Rat:	0.16 mg/kg 1 h						
Symptoms of Exposure:	Irritation, burns, cyanosis, coughing, hoarseness, suffocation, loss of coordination, loss of feeling, nausea, vomiting, anoxia.						
Carcinogenic Effects:	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.						

12. ECOLOGICAL INFORMATION

Ecotoxicological Data: EC₅₀, Water Flea (*Daphnia magna*): 0.53 mg/L 24 h
LC₅₀, Fathead Minnow (*Pimphales promelas*): 0.31 - 0.37 mg/L 96 h
LC₅₀, Rainbow Trout (*Oncorhynchus mykiss*): 0.052 mg/L 96 h

Persistence and Degradability: Bioaccumulation Factor: 170 (*Oncorhynchus mykiss*, 16 weeks)

Environmental Effects: Very toxic to aquatic organisms with long-lasting effects. Avoid release to the environment.

13. DISPOSAL INFORMATION

Disposal Instructions: Dispose of this material and its container to an approved waste collection point. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or into sewers. All wastes must be handled in accordance with local, state, and federal regulations.

Contaminated Packaging: Because containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

Waste Codes: P098 (US RCRA Acute Hazardous Waste)

14. TRANSPORT INFORMATION

DOT:

UN Number: UN1680

Proper Shipping Name: Potassium cyanide, solid

Hazard Class: 6.1

Packing Group: I

ERG Number: 157

Environmental Hazard Regulations: IMDG: Marine pollutant

Other Transport Precautions: DOT Reportable Quantity: 10 lb

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is not considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: Potassium Cyanide

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

Section 313: Potassium Cyanide**CERCLA Reportable Quantities:** Potassium Cyanide: 10 lb**DHS Chemical Facility
Anti-Terrorism Standard:** Potassium Cyanide: 2000 lb STQ**International Inventories:**

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country or region.

16. OTHER INFORMATION**Disclaimer:**

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