



POTASSIUM CYANIDE
Material Safety Data Sheet

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Product Identification:

Synonyms: Potassium Cyanide, Solid

CAS Number: 151-50-8 Molecular Weight: 65.12

Chemical Formula: KCN Hazardous Ingredients: Not Applicable

DANGER! MAY BE FATAL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
CONTACT WITH ACID LIBERATES POISONOUS GAS.

PRECAUTIONARY INFORMATION

Do not breathe cyanide dust, mist or vapors.

Do not take internally.

Wash thoroughly after handling.

Store in air-tight containers in cool, dry well ventilated area and away from acids.

EMERGENCY/FIRST AID

IN ALL CASES, CALL PHYSICIAN IMMEDIATELY.
KEEP A CYANIDE ANTIDOTE KIT in area of product use or storage. First-aiders must take precautions to avoid contact with potassium cyanide.

Administer any nitrite ampules per pre-planned directions.
If inhaled, remove patient to fresh air. If not breathing, give artificial respiration. DO NOT GIVE MOUTH-TO-MOUTH resuscitation. Keep patient warm and at rest. In case of skin contact, remove contaminated clothing. Flush exposed areas with large quantities of water for at least 15 minutes. If swallowed and if patient is conscious, immediately rinse mouth with water and induce vomiting by tickling back of throat with handle of spoon or by giving a glass of warm soapy water. SEE SECTION 5.

DOT Hazard Class: POISON B

Physical Data

Appearance: White, granular solid.

Odor: Some individuals can detect the odor of cyanide (bitter almonds)

Solubility: Very soluble in water.

Boiling Point: 1625°C (2957°F) Vapor Density: No information found.

Melting Point: 635°C (1175°F) Vapor Pressure: No information found.

Specific Gravity (water = 1): ca 1.5 Evaporation Rate: No information found.

Fire and Explosion Information

Explosion:

Fire Extinguishing Media:

Special Information:

SECTION 2

Not combustible, but can liberate flammable Hydrogen Cyanide upon heating.

Not considered an explosion hazard, but chlorates, nitrites and nitrogen trichloride plus ammonia have been found to form explosive mixtures (some spontaneous) when contacted with KCN.

Water spray can be used to fight fire in areas containing KCN and to keep fire exposed containers cool. Do not use CO₂ extinguishers.

Personnel fighting fire involving this substance should wear full protective clothing and NIOSH approved self-contained breathing apparatus, full facepiece operated in the pressure demand or other pressure mode. Contact with acid or heat liberates toxic and flammable hydrogen cyanide. When dissolved in water KCN is a strong base. It reacts violently with acids and oxidants.

Reactivity Data

SECTION 3

Stable at room temperature in tightly closed containers. KCN is deliquescent. It is gradually decomposed on exposure to air by reaction with CO₂ and moisture.

Hazardous Decomposition Products:

Cyanides and oxides of nitrogen.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Nitrogen Trichloride, Perchloryl Fluoride, Sodium Nitrite, Acids, Alkaloids, Chloral Hydrate, Iodine, strong oxidizers.

Leak/Spill Disposal Information SECTION 4

Spills: Ventilate and evacuate area. See Section 2/Special Information. Allow only qualified personnel to handle the spill. Gently sweep up and place in closed container for recovery. Do not allow contact with sewers and water courses. Decontaminate liquid or solid residues with chlorine or commercial bleach.

Disposal: KCN is an acutely hazardous waste under RCRA and if sent off site for disposal can be handled only in RCRA approved facilities. Cyanides must be oxidized to harmless waste before disposal. An alkaline solution (pH about 10) is treated with chlorine or commercial bleach in excess to decompose cyanide. When cyanide-free, it can be neutralized.

Ensure compliance with local, state and federal regulations.

Reportable Quantity (RQ)-Spills (CWA Sec. 311): 10 lbs.

Potassium Cyanide

Health Hazard Information

A. Exposure/Health Effects

SECTION 5

Corrosive to the respiratory tract. The substance inhibits cellular respiration. Overexposure may cause headache, weakness, dizziness, labored breathing and nausea which can be followed by weak and irregular heart beat, unconsciousness, convulsions, coma and death.

Ingestion:

Corrosive to the gastro-intestinal tract. In addition to painful swallowing, symptoms may be expected to be similar to those noted for inhalation exposure.

Skin Contact:

Corrosive to the skin, and may be absorbed through the skin. Skin absorption may cause symptoms similar to those noted for inhalation.

Eye Contact:

Corrosive to the eyes; redness, pain and blurred vision may occur.

Chronic Exposure:

The substance is corrosive to the eyes, the skin and the respiratory tract. Repeated minor contact causes a "cyanide" rash.

Aggravation of Pre-existing Conditions:

Workers using cyanide should have preplacement and periodic medical exams. Those with history of central nervous system, heart or lung diseases may be more susceptible to the effects of this substance.

B. FIRST AID

Following any route of exposure get medical attention immediately. Administer anyl nitrate ampules by pre-planned directions.

Inhalation:

Move to fresh air. If breathing has stopped, give artificial respiration. Do not use mouth-to-mouth resuscitation. Keep the affected person warm and at rest.

Ingestion:

A DEADLY POISON! If patient is conscious, give water to rinse mouth, then induce vomiting by tickling back of throat with the handle of a spoon or by giving a glass of warm soapy water. Repeat several times.

Skin Exposure:

Remove any contaminated clothing. Wash skin with plenty of water for at least 15 minutes.

Eye Exposure:

Wash eyes with plenty of water for at least 15 minutes.

C. Toxicity Data: (RTECS, 1982)

Oral (Rat) LD₅₀: 10 mg/Kg (Highly Toxic)
Oral (Rabbit) LD₅₀: 5 mg/Kg
Oral (Man) LD₅₀: 3 mg/Kg

Occupational Control Measures

SECTION 6

Airborne Exposure Limit:

- OSHA Permissible Exposure Limit (PEL): 5 mg (CN)/m³ (Skin) (TVA)
- ACGIH Threshold Limit Value (TLV): 5 mg (CN)/m³ (Skin) (TVA)

Ventilation System:

A system of general or local exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the substance at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators:

(NIOSH approved)

If the PEL is exceeded, wear a supplied air, full facepiece respirator, attired hood, or self-contained breathing apparatus.

Skin Protection:

Wear impervious protective clothing including boots, gloves, apron, or coveralls to prevent skin contact.

Eye Protection:

Contact lenses should not be worn when working with this material. Use chemical safety goggles and/or full face shield where splashing is possible.

Maintain eye wash fountain and quick drench facilities in work area.

Practice good personal hygiene and wash thoroughly after handling material. Do not eat, drink or smoke in the workplace.

Storage and Special Information

SECTION 7

Store in a cool, dry, well ventilated place away from acids and oxidizing agents. Protect containers from physical damage.

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