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Material Safety Data Sheet

Potassium Cyanide, 5% (w/w) MSDS

Section 1: Chemical Product and Company Identification

Product Name: Potassium Cyanide, 5% (w/w)

Catalog Codes: SLP2845

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Water; Potassium cyanide

CI#: Not available.

Synonym:

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Water	7732-18-5	95
Potassium cyanide	151-50-8	5

Toxicological Data on Ingredients: Potassium cyanide: ORAL (LD50): Acute: 5 mg/kg [Rabbit]. 8.5 mg/kg [Mouse]. 5 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion. Severe over-exposure can result in death.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Potassium cyanide]. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to blood, liver. The substance may be toxic to cardiovascular system, upper respiratory tract, , central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Slightly explosive in presence of oxidizing materials. Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Chlorates + potassium cyanide explode when heated. Potassium cyanide + nitrites may cause explosion. Nitrogen trichloride explodes on contact with potassium cyanide. Potassium cyanide + hydrogen cyanide is a friction and impact-sensitive explosive and may initiate detonation of liquid hydrogen cyanide. Mercuric nitrate + potassium cyanide explodes when heated and contained in narrow ignition tubes. Perchloryl fluoride + potassium cyanide causes an explosive reaction at 100-300 C. Potassium cyanide + ammoniacal silver, following heating, shock or standing can cause an explosion. Heating of potassium cyanide & chromium tetraoxide can cause an explosion. Mixtures of metal cyanides with metal chlorates, perchlorates, or nitrates causes a violent explosion. (Potassium cyanide)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

Large Spill:

Poisonous liquid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Potassium cyanide STEL: 5 (mg/m³) from ACGIH (TLV) [United States] CEIL: 0.7 from NIOSH [United States] CEIL: 5 (mg/m³) from NIOSH [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Basic.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.02 (Water = 1)

Vapor Pressure: The highest known value is 2.3 kPa (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol.

Solubility:

Easily soluble in cold water, hot water. Partially soluble in methanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances:

Reactive with oxidizing agents. Slightly reactive to reactive with acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Incompatible with acids, acid syrups, alkaloids, chloral hydrate, iodine, metallic salts, permanganates, chlorates, peroxides. Potassium cyanide may react with carbon dioxide in ordinary air to form toxic hydrogen cyanide gas. Potassium cyanide is readily oxidized by heating to potassium cyanate in presence of oxygen or easily reduced oxides.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact.

Toxicity to Animals: Acute oral toxicity (LD50): 100 mg/kg (Rat) (Calculated value for the mixture).

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Potassium cyanide]. Contains material which may cause damage to the following organs: cardiovascular system, upper respiratory tract, , central nervous system (CNS).

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects. May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Skin: May cause skin irritation. May be harmful if absorbed through skin. May be absorbed through skin and cause symptoms similar to those described for ingestion. Eyes: May cause eye irritation. Inhalation: May cause respiratory tract and mucous membrane irritation. Inhalation of high concentrations may cause central nervous system effects similar to those described for ingestion. Ingestion: Harmful if swallowed. Causes gastrointestinal tract irritation with nausea, vomiting. May cause tissue anoxia. May affect behavior/Central Nervous system, Metabolism, cardiovascular system, respiratory system, blood, respiration. Symptoms of cyanide poisoning may include flushing, nausea, vomiting, palpitations, tachycardia, hypotension, hypertension, increased pulse rate, arrhythmias, heart conduction defects, hypernea, headache, dizziness, confusion, anxiety, agitation, tremors, weakness, hyperventilation, dyspnea, apnea, severe hypoxic signs in absence of cyanosis (cyanosis is generally late finding), convulsions, seizures, memory loss, insomnia, metabolic acidosis, poor appetite. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may cause dermatitis. Ingestion: Prolonged or repeated

exposure from ingestion may affect the urinary system, brain, liver and thyroid (goiter) as well have the same effects as acute overexposure.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification : Cyanide solution, n.o.s.(Potassium Cyanide, solution) (Potassium cyanide) UNNA: 1935 PG: III

Special Provisions for Transport: Marine Pollutant (Potassium cyanide)

Section 15: Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: Potassium cyanide Illinois chemical safety act: Potassium cyanide New York acutely hazardous substances: Potassium cyanide Rhode Island RTK hazardous substances: Potassium cyanide Pennsylvania RTK: Potassium cyanide Minnesota: Potassium cyanide Massachusetts RTK: Potassium cyanide Massachusetts spill list: Potassium cyanide New Jersey: Potassium cyanide New Jersey spill list: Potassium cyanide Louisiana RTK reporting list: Potassium cyanide Louisiana spill reporting: Potassium cyanide TSCA 8(b) inventory: Water; Potassium cyanide SARA 302/304/311/312 extremely hazardous substances: Potassium cyanide CERCLA: Hazardous substances.: Potassium cyanide: 10 lbs. (4.536 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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