

World Headquarters
Hach Company
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MSDS No: M00264

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Potassium Cyanide
Catalog Number: 76714

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49 -(0)211 -52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M00264
Chemical Name: Potassium Cyanide
Chemical Formula: KCN
Chemical Family: Cyanides
Use of the substance/preparation: Laboratory reagent
CAS No.: 151-508
Hazard: Fast-acting poison.
Date of MSDS Preparation:
Day: 12
Month: 01
Year: 2006

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 (0)70 -245245, France: +33 (0)1 -40370404, Italy: +39 (0)6101029, Netherlands: +31 (0)30 -2748888, Switzerland: +41 (0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Potassium Cyanide

EEC Number: 2057923
CAS No.: 151-50-8
Percent Range: 100,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: T+ - VERY TOXIC N - Dangerous for the Environment
Ingredient R phrase(s) (R phrase details given in Heading 16): R 26/27/28 R 32 R 50/53
TLV: 5 mg/m³ (skin)
PEL: 5 mg/m³ (skin)
EU Occupational Exposure Limits: None found. Cyanides are on the Priority List for OELs.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: White powder

Odor: Bitter Almonds

EU Symbols: T+ - VERY TOXIC N - DANGEROUS FOR THE ENVIRONMENT

R PHRASES: R 26/27/28: Very toxic by inhalation, in contact with skin and if swallowed. R 32: Contact with acids liberates very toxic gas. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Emergency response to cyanide exposure should be planned and practiced prior to work with cyanides. First responders should start treatment and get medical attention immediately. Antidote: break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat 5 times at 15 second intervals. Transport to hospital immediately. Note to Physician: Have a cyanide first aid kit available. If patient has not responded to amyl nitrite, inject intravenously 10 ml of a 3% solution of sodium nitrite at a rate not greater than 2,5 - 5 ml/min. Follow directly with 50

ml of a 25 % solution of sodium thiosulfate at the same rate by the same route. Keep patient under observation. If signs of poisoning persist or reappear, repeat nitrite and thiosulfate injections 1 hour later in one-half the original doses.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): May cause irritation May cause: ataxia - loss of muscular coordination respiratory stimulation

Skin Contact (EC): No effects are anticipated

Skin Absorption (EC): Harmful if absorbed through the skin Effects similar to those of ingestion

Target Organs (SA E): Central nervous system

Ingestion (EC): Very Toxic May be rapidly fatal. Causes: cyanosis (a reduction of the blood's ability to carry oxygen, giving a bluish discoloration) May cause: anxiety headache confusion irregular heartbeat coma death

Target Organs (Ing E): Brain Central nervous system

Inhalation: Effects similar to those of ingestion.

Target Organs (Inh E): Brain Central nervous system

Medical Conditions Aggravated: Pre-existing: Skin conditions

Chronic Effects: Chronic overexposure may cause central nervous system effects

Cancer / Reproductive Toxicity Information:

IARC Listed: No

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen. an experimental teratogen.

Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

Ingestion (First Aid): Break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat every five minutes. Administer artificial respiration with 100% oxygen. Transport to hospital immediately.

Inhalation: Break an amyl nitrite pearl in cloth and hold lightly under nose for 15 seconds. Repeat 5 times at 15 second intervals. Transport to hospital immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Reacts with water or any acid to form flammable hydrogen cyanide gas.

Hazardous Combustion Products: Toxic fumes of: cyanide compounds nitrogen oxides.

Fire / Explosion Hazards: Not combustible. Reaction with water or any acid releases toxic and flammable hydrogen cyanide gas.

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Alkali dry chemical. Do NOT use carbon dioxide. Do NOT use water.

Extinguishing Media NOT To Be Used: Not applicable Do NOT use carbon dioxide. Do NOT use water.

Fire Fighting Instruction: Evacuate area and fight fire from a safe distance. As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Containment Technique: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

Clean-up Technique: Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Carefully mist spill with bleach until saturated. Scoop up slurry into a large beaker. Oxidize spilled material with a 50% excess of bleach containing at least 5% sodium hypochlorite. Allow to react for 24 hours in a fume hood. Flush reacted material to the drain with a large excess of water. Decontaminate area with bleach solution.

Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation. Deny access to unnecessary and unprotected personnel.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

Storage: Store away from: acids / acid fumes. oxidizers

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Laboratory reagent

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Have a safety shower nearby. Use a fume hood to avoid exposure to dust, mist or vapor.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin / Hand Protection: lab coat disposable latex gloves

Inhalation Protection: laboratory fume hood

Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Keep away from: acids/acid fumes

TLV: 5 mg/m³ (skin)

PEL: 5 mg/m³ (skin)

EU Occupational Exposure Limits: None found. Cyanides are on the Priority List for OELs.

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: White powder

Physical State: Solid

Odor: Bitter Almonds

pH: 11,0 (0,1% solution)

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: 634° C; 1173° F

Flash Point: Not applicable

Method: Not applicable

Autoignition Temperature: Not applicable

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable

Specific Gravity (water = 1): 1,52

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Partition Coefficient (n -octanol / water): Not available

Solubility:

Water: Soluble

Acid: Soluble; Generates toxic hydrogen cyanide gas

Other: Soluble in glycerol, methanol

Metal Corrosivity:

Steel: Not determined

Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Excess moisture Heating to decomposition.

Reactivity / Incompatibility: Reacts with water or any acid to form toxic and flammable hydrogen cyanide gas.

Incompatible with: oxidizers metallic salts alkaloidal salts

Hazardous Decomposition: Contact with acids/acid fumes releases toxic cyanide gas. Heating to decomposition releases: cyanide nitrogen oxides

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: Oral human LD Lo = 2,857 mg/kg; Oral rat LD₅₀ = 5 mg/kg; Ocular rabbit LD₅₀ = 7.87 mg/kg.

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: None reported

Mutation Data: DNA Inhibition in mouse lymphocytes @ 1 mmol/l; Cytogenic analysis in mouse mammary gland @ 1 mmol/l/48hr.

Reproductive Effects Data: Oral mammal - domestic animal TD Lo = 1767 mg/kg: effects on newborn.

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Ingredient Toxicological Data: --

Not applicable

IARC Listed: No

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: --

Not applicable

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Potassium Cyanide, Solid

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ICAO Hazard Class: 6,1

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: UN1680

ICAO Packing Group: I

I.M.O.:

I.M.O. Proper Shipping Name: Potassium Cyanide, Solid

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I.M.O. Hazard Class: 6,1

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: UN1680

I.M.O. Packing Group: I

A.D.R.:

A.D.R. Proper Shipping Name: Potassium Cyanide, Solid

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A.D.R. Hazard Class: 6,1

A.D.R. Subsidiary Risk: NA

A.D.R. UN Number: 1680

A.D.R. Packing Group: I

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: EINECS Listed: Yes

EEC Number: 2057923

EEC LABEL COPY:

EU Symbols: T+ - VERY TOXIC N - DANGEROUS FOR THE ENVIRONMENT

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S PHRASES: S 7: Keep container tightly closed. S 28a: After contact with skin, wash immediately with plenty of water.

S 29: Do not empty into drains. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S 60: This material and / or its container must be disposed of as hazardous waste. S 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332 -2983. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1 -42) Supplement 7. France: 1987. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. Vendor Information. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989.

R PHRASES: R 26/27/28: Very toxic by inhalation, in contact with skin and if swallowed. R 32: Contact with acids liberates very toxic gas. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Use of the substance/preparation: Laboratory reagent

Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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