

The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

<u>Product</u>	<u>MSDS</u>	<u>Distributor</u>	<u>Format</u>	<u>Language</u>	<u>Quantity</u>
76714	N/A	Hach Company	ROWGHS	English	1

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Total Enclosures: 1

World Headquarters  
Hach Company  
P.O.Box 389  
Loveland, CO USA 80539  
(970) 669-3050

MSDS No: M00264

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Potassium Cyanide  
**Catalog Number:** 76714

Hach Company  
P.O.Box 389  
Loveland, CO USA 80539  
(970) 669-3050

Emergency Telephone Numbers:  
(Medical and Transportation)  
(303) 623-5716 24 Hour Service  
(515)232-2533 8am - 4pm CST

**MSDS Number:** M00264  
**Chemical Name:** Potassium Cyanide  
**CAS Number:** 151-50-8  
**Additional CAS No. (for hydrated forms):** Not applicable  
**Chemical Formula:** KCN  
**Chemical Family:** Cyanides  
**Intended Use:** Laboratory reagent

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## 2. HAZARDS IDENTIFICATION

**GHS Classification:**

**Hazard categories:** Acute Toxicity: Acute Tox. 2-Inh Acute Toxicity: Acute Tox. 1-Derm Acute Toxicity: Acute Tox. 2-Orl Hazardous to the Aquatic Environment: Aquatic Acute 1 Hazardous to the Aquatic Environment: Aquatic Chronic 1

**GHS Label Elements:**

DANGER



**Hazard statements:** Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Contact with acids liberates very toxic gas.

**Precautionary statements:** Handle environmental release according to local, state, federal, provincial requirements. Wear protective gloves / protective clothing / eye protection / face protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN: Wash with plenty of soap and water.

**HMIS:**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**Protective Equipment:** X - See protective equipment, Section 8.

**NFPA:**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**Symbol:** Not applicable

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## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:** Yes

## **Potassium Cyanide**

**CAS Number:** 151-50-8

**Chemical Formula:** KCN

**GHS Classification:** Acute Tox. 2-Orl, H300; Acute Tox. 1-Derm, H310; Acute Tox. 2-Inh, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410

**Percent Range:** 100.0

**Percent Range Units:** weight / weight

**PEL:** 5 mg/m<sup>3</sup> (skin)

**TLV:** 5 mg/m<sup>3</sup> (skin)

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## **4. FIRST AID MEASURE**

**General Information:** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

**Advice to doctor:**

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.

**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.

**Inhalation:** Call physician. Remove to fresh air.

**Ingestion (First Aid):** Call physician immediately. Never give anything by mouth to an unconscious person.

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## **5. FIRE FIGHTING MEASURES**

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

**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.

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

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

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## **6. ACCIDENTAL RELEASE MEASURES**

**Spill Response Notice:**

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**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.

**DOT Emergency Response Guide Number:** 157

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## **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

**Flammability Class:** Not applicable

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** 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 Protection:** lab coat disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it.

**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/m<sup>3</sup> (skin)

**PEL:** 5 mg/m<sup>3</sup> (skin)

**For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:**

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** White powder

**Physical State:** Solid

**Molecular Weight:** 65.12 g/mol

**Odor:** Bitter Almonds

**Odor Threshold:** Not available

**pH:** 11.0 (0.1% solution)

**Metal Corrosivity:**

**Corrosivity Classification:** Not classified as corrosive to metals according to GHS criteria.

**Steel:** Not determined

**Aluminum:** Not determined

**Specific Gravity/ Relative Density (water = 1; air = 1):** 1.52

**Viscosity:** Not applicable

**Solubility:**

**Water:** Soluble

**Acid:** Soluble; Generates toxic hydrogen cyanide gas

**Other:** Soluble in glycerol, methanol

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

**Coefficient of Water / Oil:** Not available

**Melting Point:** 634° C; 1173° F

**Decomposition Temperature:** Not applicable

**Boiling Point:** Not applicable

**Vapor Pressure:** Not applicable

**Vapor Density (air = 1):** Not applicable

**Evaporation Rate (water = 1):** Not applicable

**Volatile Organic Compounds Content:** Not applicable

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

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not applicable

**Explosive Properties:**

Not classified according to GHS criteria.

**Oxidizing Properties:**

Not classified as oxidizer according to GHS.

**Reactivity Properties:**

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

**Gas under Pressure:** Not classified as gas under pressure according to GHS.

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## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Mechanical Impact:** None reported

**Static Discharge:** None reported.

**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

**Conditions to Avoid:** Excess moisture Heating to decomposition.

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## 11. TOXICOLOGICAL INFORMATION

### **Toxicokinetics, Metabolism and Distribution:**

Cyanide: rapidly absorbed & distributed following all routes of exposure. Death may occur within minutes. Transformed to thiocyanate (plasma half- life 20 minutes to 1 hour). Metabolites excreted in urine & small amounts by lungs.

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Route Data Given Below

orale chez le rat LD50 = 5 mg/kg

Dermal Rabbit LD50 = 14.3-33.3 mg/kg

Inhalation (dust/mist) Rat LC50 (30 min) = 0.12mg/l

**Specific Target Organ Toxicity - Single Exposure (STOT-SE):** Based on classification principles, the classification criteria are not met.

**Specific Target Organ Toxicity - Repeat Exposure (STOT-RE):** Based on classification principles, the classification criteria are not met.

**Skin Corrosion/Irritation:** Based on classification principles, the classification criteria are not met.

**Eye Damage:** Based on classification principles, the classification criteria are not met.

**Sensitization:** Based on classification principles, the classification criteria are not met.

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** No germ cell mutagenicity, carcinogenicity or reproductive toxicity data found.

IARC Listed: No

NTP Listed: No

O.S.H.A. Listed: No

### **Symptoms/Effects:**

**Ingestion:** 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

**Inhalation:** Effects similar to those of ingestion.

**Skin Absorption:** Harmful if absorbed through the skin Effects similar to those of ingestion

**Chronic Effects:** Chronic overexposure may cause central nervous system effects

**Medical Conditions Aggravated:** Pre-existing: Skin conditions

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** Potassium Cyanide: Fish 96 hr LC50 = 0.068 mg/l; Crustaceas 48 hr LC50 = 0.25 mg/l

CEPA Categorization: Persistent and inherently toxic to non-human organisms (PiT). Not Bioaccumulative

**Ingredient Ecological Information:** --

Not applicable

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## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** P098

**Special Instructions (Disposal):** Dispose of material in an E.P.A. approved hazardous waste facility.

**Empty Containers:** Rinse three times with an appropriate solvent. Dispose of empty container as normal trash. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility.

**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.

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## 14. TRANSPORT INFORMATION

### **D.O.T.:**

**D.O.T. Proper Shipping Name:** Potassium Cyanide, Solid

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**Hazard Class:** 6.1

**Subsidiary Risk:** NA

**ID Number:** UN1680

**Packing Group:** I

### **T.D.G.:**

**Proper Shipping Name:** Potassium Cyanide, Solid

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**Hazard Class:** 6.1

**Subsidiary Risk:** NA

**PIN:** 1680

**Group:** I

### **I.C.A.O.:**

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

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**Hazard Class:** 6.1

**Subsidiary Risk:** NA

**ID Number:** UN1680

**Packing Group:** I

### **I.M.O.:**

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

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**Hazard Class:** 6.1

**Subsidiary Risk:** NA

**ID Number:** UN1680

**Packing Group:** I

**Additional Information:** There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

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## 15. REGULATORY INFORMATION

### **U.S. Federal Regulations:**

**O.S.H.A.:** This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

### **E.P.A.:**

**S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370):** Immédiat (aigu) Danger pour la santé Delayed (Chronic) Health Hazard

**S.A.R.A. Title III Section 313 (40 CFR 372):** This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.

Cyanide Compounds

**302 (EHS) TPQ (40 CFR 355):** Potassium Cyanide - RQ 100 lbs.

**304 CERCLA RQ (40 CFR 302.4):** Potassium cyanide 10 lbs.

**304 EHS RQ (40 CFR 355):** Potassium Cyanide 10 lbs

**Clean Water Act (40 CFR 116.4):** Potassium cyanide - RQ 10 lbs.

**RCRA:** Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

### **State Regulations:**

**California Prop. 65:** No Prop. 65 listed chemicals are present in this product.

**Identification of Prop. 65 Ingredient(s):** Not applicable.

**California Perchlorate Rule CCR Title 22 Chap 33:** Not applicable

**Trade Secret Registry:** Not applicable

### **National Inventories:**

**U.S. Inventory Status:** TSCA Listed: Yes

**CAS Number:** 151-50-8

**Canadian Inventory Status:** DSL Listed: Yes

*EEC Inventory Status:* EINECS Listed: Yes  
*Australian Inventory (AICS) Status:* Listed  
*New Zealand Inventory (NZIoC) Status:* Listed  
*Korean Inventory (KECI) Status:* Listed  
*Japan (ENCS) Inventory Status:* Listed  
*China (PRC) Inventory (MEP) Status:* Listed

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## 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 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.

**Complete Text of H phrases referred to in Section 3:** H300 Fatal if swallowed. H310 Fatal in contact with skin. H330 Fatal if inhaled. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

**Revision Summary:** Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

**Date of MSDS Preparation:**

**Day:** 25

**Month:** February

**Year:** 2011

**MSDS Prepared:** MSDS prepared by Product Compliance Department extension 3350

**CCOHS Evaluation Note:** It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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**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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