

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Alkaline Cyanide Reagent  
**Catalog Number:** 2122326

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:** MP1150  
**Chemical Name:**  
**CAS Number:**  
**Additional CAS No. (for hydrated forms):** Not applicable  
**Chemical Formula:**  
**Chemical Family:** Not applicable  
**Intended Use:** Laboratory Reagent Determination of manganese

## 2. HAZARDS IDENTIFICATION

**GHS Classification:**

**Hazard categories:** Acute Toxicity: Acute Tox. 3-Orl Acute Toxicity: Acute Tox. 2-Derm Acute Toxicity: Acute Tox. 3-Inh Skin Corrosion/Irritation: Skin Corr. 1A Hazardous to the Aquatic Environment: Aquatic Chronic 1

**GHS Label Elements:**

DANGER



**Hazard statements:** Toxic if swallowed. Fatal in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects.

Contact with acids liberates very toxic gas.

**Precautionary statements:** Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wear protective gloves / protective clothing / eye protection / face protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

**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

**WHMIS Hazard Classification:** Class E - Corrosive material Class D, Division 1, Subdivision B - Toxic material (immediate effects)

**WHMIS Symbols:** Corrosive Acute Poison

---

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:**

**Sodium Cyanide**

**CAS Number:** 143-33-9

**Chemical Formula:** NaCN

**GHS Classification:** Acute Tox. 1 –Orl, H300; Acute Tox. 1 – Derm, H310; Acute Tox. 2 - Inh, H330; Aquatic acute 1, H400; Aquatic Chronic 1, H410; EUH032

**Percent Range (Trade Secret):** 5.0 - 15.0

**Percent Range Units:** weight / volume

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

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

**WHMIS Symbols:** Acute Poison

**Sodium Hydroxide**

**CAS Number:** 1310-73-2

**Chemical Formula:** NaOH

**GHS Classification:** Met. Corr.1, H290; Skin Corr. 1A, H314; Aquatic Acute 3, H402

**Percent Range (Trade Secret):** 1.0 - 5.0

**Percent Range Units:** weight / volume

**PEL:** 2 mg/m<sup>3</sup>

**TLV:** Not established

**WHMIS Symbols:** Acute Poison Corrosive

**Hazardous Components according to GHS: No**

**Demineralized Water**

**CAS Number:** 7732-18-5

**Chemical Formula:** H<sub>2</sub>O

**GHS Classification:** Not a dangerous substance according to GHS.

**Percent Range (Trade Secret):** 90.0 - 100.0

**Percent Range Units:** volume / volume

**PEL:** Not established

**TLV:** Not established

**WHMIS Symbols:** Not applicable

---

### 4. FIRST AID MEASURES

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

**Advice to doctor:** 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. 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. Cyanide levels, arterial blood gases and acid-base balance should be monitored. If indicated use a cyanide antidote such as sodium thiosulfate and sodium nitrate.

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):** Remove contaminated clothing. Wash skin with plenty of water for 15 minutes. Call physician immediately.

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

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

---

## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition.

**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

**Extinguishing Media:** Use media appropriate to surrounding fire conditions

**Extinguishing Media NOT To Be Used:** Not applicable

**Fire / Explosion Hazards:** May react violently with: strong acids

**Hazardous Combustion Products:** Toxic fumes of: cyanide compounds sodium monoxide

---

## 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. Absorb spilled liquid with non-reactive sorbent material.

**Clean-up Technique:** Dispose of in accordance with local, state and federal regulations or laws.

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

**DOT Emergency Response Guide Number:** 154

---

## 7. HANDLING AND STORAGE

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

**Storage:** Keep away from: acids / acid fumes. Protect from: heat freezing

**Flammability Class:** Not applicable

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.

### **Personal Protective Equipment:**

**Eye Protection:** chemical splash goggles

**Skin Protection:** neoprene 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. lab coat

**Inhalation Protection:** laboratory fume hood

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: acids/acid fumes Protect from: heat freezing

**TLV:**

**PEL:**

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

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:**

**Odor:** None

**Odor Threshold:**

**pH:**

**Metal Corrosivity:**

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

**Steel:**

**Aluminum:**

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

**Viscosity:**

**Solubility:**

**Water:**

**Acid:**

**Other:**

**Partition Coefficient (n-octanol / water):**

**Coefficient of Water / Oil:**

**Melting Point:**

**Decomposition Temperature:**

**Boiling Point:**

**Vapor Pressure:**

**Vapor Density (air = 1):**

**Evaporation Rate (water = 1):**

**Volatile Organic Compounds Content:**

**Flammable Properties:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition.

**Flash Point:**

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:**

**Upper Explosion Limits:**

**Autoignition Temperature:**

**Explosive Properties:**

Not classified according to GHS criteria.

**Oxidizing Properties:**

Not classified according to GHS criteria.

**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 according to GHS criteria.

---

## 10. STABILITY AND REACTIVITY

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

**Mechanical Impact:** None reported

**Static Discharge:** None reported.

**Reactivity / Incompatibility:** Incompatible with: acids

**Hazardous Decomposition:** Contact with acids/acid fumes releases toxic cyanide gas.

**Conditions to Avoid:** Extreme temperatures

---

## 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available for mixture.

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Toxicological Testing and/or Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data

**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:** Corrosive to skin.

**Eye Damage:** Corrosive to eyes.

**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.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

This product does NOT contain any OSHA listed carcinogens.

**Symptoms/Effects:**

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

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

**Skin Absorption:** Toxic Will be absorbed through the skin. Effects similar to those of ingestion

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

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

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:**

No ecological data available for this product.

**Ingredient Ecological Information:**

---

## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** D003

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

**Empty Containers:** Rinse three times with an appropriate solvent. 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.

---

## 14. TRANSPORT INFORMATION

**D.O.T.:**

**D.O.T. Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S.

**Hazard Class:** 8

**Subsidiary Risk:** 6.1

**ID Number:** UN2922

**Packing Group:** II

**T.D.G.:**

**Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S.

**Hazard Class:** 8

**Subsidiary Risk:** 6.1

**UN Number/PIN:** 2922

**Packing Group:** II

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

**I.C.A.O. Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S.

**Hazard Class:** 8

**Subsidiary Risk:** 6.1

**ID Number:** UN2922

**Packing Group:** II

**I.M.O.:**

**Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S.

**Hazard Class:** 8

**Subsidiary Risk:** 6.1

**ID Number:** UN2922

**Packing Group:** II

**Marine Pollutant:**

**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.

---

## 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):** Immediate (Acute) 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.

**302 (EHS) TPQ (40 CFR 355):** Sodium Cyanide 100 lbs.

**304 CERCLA RQ (40 CFR 302.4):** Sodium Hydroxide 1000 lbs. Sodium Cyanide 10 lbs.

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

**Clean Water Act (40 CFR 116.4):** Sodium Hydroxide - RQ = 1000 lbs. (454 kgs.) Sodium 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):**

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

**Trade Secret Registry:** Not applicable

**National Inventories:**

**U.S. Inventory Status:** All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

**CAS Number:**

**Canadian Inventory Status:** All ingredients of this product are DSL Listed.

**EEC Inventory Status:** All ingredients used to make this product are listed on EINECS / ELINCS.

**Australian Inventory (AICS) Status:** All ingredients are listed.

**New Zealand Inventory (NZIoC) Status:** All components either listed or exempt.

**Korean Inventory (KECI) Status:** All components of this product are either listed, listed as the anhydrous compound or exempt.

**Japan (ENCS) Inventory Status:** All components either listed or exempt.

**China (PRC) Inventory (MEP) Status:** All components either listed or exempt.

---

## 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. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. Outside Testing. In-house information. Technical Judgment. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992.

**Complete Text of H phrases referred to in Section 3:** H290 May be corrosive to metals. H300 Fatal if swallowed. H310 Fatal in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. 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:** 09

**Month:** March

**Year:** 2015

**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).

---

**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.**

**HACH COMPANY ©2015**