

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>
98299	N/A	Hach Company	OSHA	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: M00028

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Dissolved Oxygen 2 Reagent  
**Catalog Number:** 98299

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:** M00028  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** Toxic. Causes severe burns.  
**Date of MSDS Preparation:**  
**Day:** 27  
**Month:** January  
**Year:** 2003

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Potassium Iodide

**CAS No.:** 7681140  
**TSCA CAS Number:** 7681-11-0  
**Percent Range:** 30.0 - 40.0  
**Percent Range Units:** weight / weight  
**LD50:** Oral Mouse LD50 = 1862 mg/kg  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** Causes irritation.

### Lithium Hydroxide

**CAS No.:** 1310663  
**TSCA CAS Number:** 1310-65-2  
**Percent Range:** 55.0 - 65.0  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD50 = 225 mg/kg  
**LC50:** Inhalation rat LC50 = 980 mg/m<sup>3</sup>/4H  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** Toxic. Causes severe burns.

### Sodium Azide

**CAS No.:** 26628-22-8  
**TSCA CAS Number:** 26628-22 8  
**Percent Range:** 1.0 - 5.0  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD<sub>50</sub> = 27 mg/kg; Oral mouse LD<sub>50</sub> = 27 mg/kg.  
**LC50:** None reported  
**TLV:** C: 0.29 mg/m<sup>3</sup> as Sodium azide; C 0.11 ppm as Hydrazoic acid vapor  
**PEL:** Not established

**Hazard:** Highly toxic. May cause irritation. Cumulative poison. Experimental mutagen. Explosive. Contact with acid may generate toxic fumes.

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### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** White crystals

**Odor:** None

CAUSES SEVERE BURNS HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN

**HMIS:**

**Health:** 3

**Flammability:** 1

**Reactivity:** 1

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

**NFPA:**

**Health:** 3

**Flammability:** 1

**Reactivity:** 1

**Symbol:** Not applicable

**Potential Health Effects:**

**Eye Contact:** Causes severe burns

**Skin Contact:** Causes severe burns

**Skin Absorption:** Toxic. Effects similar to those of ingestion

**Target Organs:** Central nervous system

**Ingestion:** Toxic Causes: severe burns hypotension May cause iodism, which symptoms include skin rash, conjunctivitis, runny nose, sneezing, bronchitis, headache, fever and irritation of mucous membranes. May cause: abdominal pain dizziness nausea vomiting respiratory stimulation convulsions followed by respiratory depression central nervous system effects kidney damage liver damage spleen damage lung damage coma death

**Target Organs:** Central nervous system Bone marrow Kidneys Liver Spleen Lungs

**Inhalation:** Causes: severe burns May cause: coughing shortness of breath bronchitis headache dizziness weakness respiratory stimulation convulsions followed by respiratory depression death

**Target Organs:** None reported

**Medical Conditions Aggravated:** Sodium azide produces a larger blood pressure drop in persons with high blood pressure than in persons with normal blood pressure. Pre-existing: Eye conditions Skin conditions Respiratory conditions Kidney conditions Liver conditions

**Chronic Effects:** Lithium compounds have been implicated in development of aplastic anemia. Signs of lithium poisoning include dehydration, extreme weight loss, fine tremor of hands, nausea, vomiting and diarrhea. Chronic overexposure may cause headache central nervous system effects kidney damage liver damage

**Cancer / Reproductive Toxicity Information:**

This product does NOT contain any OSHA listed carcinogens.

This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

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

**Toxicologically Synergistic Products:** None reported

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### 4. FIRST AID

**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):** Do not induce vomiting. Give 1-2 glasses of water. Never give anything by mouth to an unconscious person. Call physician immediately.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Does not burn, but may melt in a fire, releasing toxic fumes. During a fire, corrosive and toxic gases may be generated by thermal decomposition.

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not determined

**Hazardous Combustion Products:** None reported

**Fire / Explosion Hazards:** Contact with metals gives off hydrogen gas which is flammable. Closed containers may explode if heated.

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Carbon dioxide. Dry chemical. Water.

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

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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.

**Containment Technique:** Stop spilled material from being released to the environment.

**Clean-up Technique:** Avoid contact with spilled material. Sweep up material. Dispose of material in an E.P.A. approved hazardous waste facility. Decontaminate the area of the spill with a weak acid 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.

**Special Instructions (for accidental release):** Mixture contains a component which is regulated as hazardous waste.

**304 EHS RQ (40 CFR 355):** Sodium Azide - RQ 1000 lbs.

**D.O.T. Emergency Response Guide Number:** 154

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## 7. HANDLING / STORAGE

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

**Storage:** Store in a cool, dry place. Keep away from: metals, acids / acid fumes.

**Flammability Class:** Not applicable

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## 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. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

**Eye Protection:** chemical splash goggles

**Skin Protection:** disposable latex gloves, lab coat

**Inhalation Protection:** laboratory fume hood

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

**TLV:** Not established

**PEL:** Not established

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** White crystals

**Physical State:** Solid

**Molecular Weight:** Not applicable

**Odor:** None  
**pH:** 12.6 (5% sol'n)  
**Vapor Pressure:** Not applicable  
**Vapor Density (air = 1):** Not applicable  
**Boiling Point:** Not applicable  
**Melting Point:** 110°C (230°F)  
**Specific Gravity (water = 1):** 1.94  
**Evaporation Rate (water = 1):** Not applicable  
**Volatile Organic Compounds Content:** Not applicable  
**Partition Coefficient (n-octanol / water):** Not applicable  
**Solubility:**  
**Water:** Soluble  
**Acid:** Not determined  
**Other:** Not determined  
**Metal Corrosivity:**  
**Steel:** Not determined  
**Aluminum:** 0.248 in/yr (6.30 mm/yr)

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Excess moisture Extreme temperatures  
**Reactivity / Incompatibility:** May react violently in contact with: acids oxidizers  
**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: iodine iodine compounds potassium oxide nitrogen oxides sodium oxides Contact with metals may release flammable hydrogen gas.  
**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**  
**LD50:** Oral rat LD<sub>50</sub> = 350 mg/kg  
**LC50:** None reported  
**Dermal Toxicity Data:** None reported  
**Skin and Eye Irritation Data:** None reported  
**Mutation Data:** Sodium Azide: DNA inhibition in human fibroblasts @ 50 mg/l; other data reported in RTECS.  
**Reproductive Effects Data:** None reported  
**Ingredient Toxicological Data:** Lithium Hydroxide: Oral rat LD<sub>50</sub> = 225 mg/kg. Sodium Azide: Oral rat LD<sub>50</sub> = 27 mg/kg; Dermal rabbit LD<sub>50</sub> = 20 mg/kg.

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --  
No ecological data available for this product.  
**Ingredient Ecological Information:** --  
No ecological data available for the ingredients of this product.

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## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** D002  
**Special Instructions (Disposal):** Never put unreacted azides down the drain! 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.  
**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.

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## 14. TRANSPORT INFORMATION

**D.O.T.:**  
**D.O.T. Proper Shipping Name:** Lithium Hydroxide, Solid Mixture

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**DOT Hazard Class:** 8  
**DOT Subsidiary Risk:** NA  
**DOT ID Number:** UN2680  
**DOT Packing Group:** II

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

**I.C.A.O. Proper Shipping Name:** Lithium Hydroxide, Solid Mixture

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**ICAO Hazard Class:** 8  
**ICAO Subsidiary Risk:** NA  
**ICAO ID Number:** UN2680  
**ICAO Packing Group:** II

**I.M.O.:**

**I.M.O. Proper Shipping Name:** Lithium Hydroxide, Solid

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**I.M.O. Hazard Class:** 8  
**I.M.O. Subsidiary Risk:** NA  
**I.M.O. ID Number:** UN2680  
**I.M.O. Packing Group:** II

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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):** Immediate (Acute) Health Hazard 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.

Sodium azide

**302 (EHS) TPQ (40 CFR 355):** Sodium Azide 500 lbs.

**304 CERCLA RQ (40 CFR 302.4):** Sodium azide 1000 lbs.

**304 EHS RQ (40 CFR 355):** Sodium Azide - RQ 1000 lbs.

**Clean Water Act (40 CFR 116.4):** Not applicable

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

**C.P.S.C.:** The label for this product bears the signal word "POISON" because the concentration of Lithium Hydroxide in the product is greater than/ equal to 10%

**State Regulations:**

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

**Identification of Prop. 65 Ingredient(s):** None

**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).

**TSCA CAS Number:** Not applicable

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## 16. OTHER INFORMATION

**Intended Use:** Determination of dissolved oxygen

**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. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Outside Testing. Technical Judgment.

**Revision Summary:** Updates in Section(s) 5, 13,

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**Legend:**

NA - Not Applicable

w/w - weight/weight

ND - Not Determined  
NV - Not Available

w/v - weight/volume  
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  
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