
Section 1. Supplier Information

CMI Chemical Corporation
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Emergency Telephone: 1-800-424-9300

Section 2. Hazardous Ingredients

<u>Hazardous Component(s)</u>	<u>CAS #</u>	<u>PEL TWA</u>	<u>PEL Ceiling</u>	<u>TLV TWA</u>	<u>TLV STEL</u>	<u>MFG Limits</u>	<u>WGT %</u>
Potassium hydroxide	1310-58-3	N/E	N/E	N/E	2 mg/m3	N/E	10 - 40
Monoethanolamine	141-43-5	3 ppm	N/E	3 ppm	6 ppm	N/E	< 20

N/A = Not Applicable; N/E = Not Established; * = Mists; # = Skin; ' = Respirable Dust; " = Total Dust; ^ = Vapor; ** = Fumes; C = Ceiling Limit

All components of this product are listed on the Toxic Substances Control Act (TSCA) Inventory and the Canadian Domestic Substances List (DSL), or are exempt from the listing.

Section 3. Hazards Identification

Primary Routes of Entry

Inhalation: YES
Skin: YES
Ingestion: YES

Hazardous Materials Information System (HMIS) Ratings

Health:	2	0 = Minimal
Fire:	1	1 = Slight
Reactivity:	0	2 = Moderate
		3 = Serious
		4 = Severe
		* = Chronic Hazard

Signs of Symptoms of Exposure:

INHALATION: Exposure to mists may cause coughing, sneezing, and other symptoms of respiratory tract irritation. Overexposure may result in lung tissue damage due to corrosive effects.

SKIN: Can be a severe skin irritant. May be corrosive and cause severe burns if not washed immediately.

EYES: This product is destructive to eye tissues on contact. Will cause severe burns that result in damage to the eyes and even blindness.

INGESTION: This product, if swallowed, can cause severe burns and complete tissue perforation of mucous membranes of the mouth, throat, esophagus, and stomach.

Chemical Listed as Potential Carcinogens:

NTP: NO

IARC: NO

OSHA: NO

Target Organs: Eyes, skin & respiratory system.

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Section 4. Emergency And First Aid Procedures

INHALATION: If adverse effects such as dizziness, nausea, or irritation are noted, move person to fresh air. If not breathing, give artificial respiration. Get medical attention!

SKIN: Immediately wash skin with large amounts of soap and water. Remove contaminated clothing and shoes; wash before reuse. Get medical attention if irritation persists after washing.

EYES: THE OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY, THEN SEEK MEDICAL ATTENTION! Immediately flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. Washing eyes within several seconds is essential to achieve maximum effectiveness. **SEEK MEDICAL ATTENTION IMMEDIATELY!**

INGESTION: Call a physician or emergency medical facility immediately!

Section 5. Fire Fighting Measures

Flash Point: > 212°F Method Used: Tagliabue Closed Cup

Flammable Limits in Air % by Volume: LEL: N/D UEL: N/D

Extinguisher Media: Most appropriate for surrounding fire.

Special Fire Fighting Procedures: Firefighters should wear a self-contained breathing apparatus with a full facepiece operated in pressure demand or other positive pressure mode, and protective clothing.

Unusual Fire And Explosion Hazards: Low fire hazard when exposed to heat and flame. Product is not flammable or combustible.

Section 6. Accidental Release Measures

If material is spilled, absorb with sand, earth, or similar inert material. Place in closed, labeled containers for proper disposal.

CERCLA (Superfund) Reportable Quantity (in lbs 4,040 lbs (390 gallons) - Potassium hydroxide (1,000 lbs)

Section 7. Handling and Storage

Handling: Avoid contact with skin and eyes; wash thoroughly after handling. Avoid breathing vapor; use with adequate ventilation.

Storage: **KEEP FROM FREEZING!** Store in a dry location at room temperature. Keep container closed and maintain all original markings and labels.

Other: If this solution is mixed with water, heat will be given off. When diluting, always add this solution to water **SLOWLY** with constant mixing, in order to avoid splattering.

Section 8. Exposure Controls and Personal Protection

Respiratory Protection: Use NIOSH / MSHA approved respirator where high vapor or mist concentrations are present.

Local Exhaust: None normally required. Local exhaust may be needed under special circumstances such as poorly ventilated areas, evaporation from large surfaces, spraying, heating, etc.

Mechanical Exhaust: Special ventilation is suggested at points where vapors can be expected to escape to the workplace air.

Protective Gloves: Wear chemical resistant gloves.

Eye Protection: Safety glasses with side shields. **Do NOT** wear contact lenses. Chemical goggles and/or faceshield should be worn where splashing is possible.

Monoethanolamine [CASRN 000141-43-5]

ACUTE TOXICITY

Oral LD50 (rat) = 1.00 - 2.00 g/kg Eye irritation (rabbit): Draize; 80.0 - 110 ; extreme irritation
Dermal LD50 (rabbit) > 1.6 g/kg Skin irritation (rabbit): Draize; 6.5- 8.0 ; corrosive

Prolonged and repeated ingestion of monoethanolamine has caused kidney and liver damage in laboratory animals. [7,20-12,4,0-091200], [3-12-092600] & [20,2-12-061900]

Section 12. Ecological Information

Potassium hydroxide [CASRN 001310-58-3]

ECOTOXICITY

96 hr - LC50 (fathead minnow) = 179 mg/L* 48 hr - EC50 (water flea) = 60 mg/L*
96 hr - EC50 (green algae) = 61 mg/L* * 45.25 % aqueous KOH solution

ENVIRONMENTAL FATE DATA: Inorganic, not subject to biodegradation

This material has produced slight toxicity in laboratory tests with aquatic organisms. This material is strongly alkaline. If released to surface water, this compound will cause the pH to rise dependent on the buffering capacity of the waterbody. Aquatic organisms become increasingly stressed as pH exceeds 9, with many aquatic species being intolerant of pH in excess of 10. This compound does not bioaccumulate in organisms. Due caution should be exercised to prevent the accidental release of this material to the environment. [14,23-2,15,11,0,6-101998]

Monoethanolamine [CASRN 000141-43-5]

ECOTOXICITY

48 hr - LC50 (daphnia) = 33-93 mg/L 96 hr - LC50 (fathead minnow) = 125-206 mg/l
IC50 (bacteria) > 700 mg/l
IC50 Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is >1000 mg/L.

FATE

BOD Day 5 - 52-60% Theoretical Oxygen Demand (ThOD): 1.31 mg/mg, calc.
BOD Day 10 - 73-75% Octanol/Water Partition Coefficient : -1.31, measured
BOD Day 20 - 90-100 % Henry's law constant (H): 2.45E-7 atm m3/mole (estimated)
Log Koc: 0.70 (estimated)
CO2 Evolution test (Modified Sturm test, OECD Test 301 B) after 28 days: 97%. Modified OECD Screening test (OECD Test 301 E) after 28 days: 94%.
Manometric Respirometry test (OECD Test 301 F) after 28 days: > 70%
[7,20-12,4,0-091200], [3-12-092600] & [20,2-12-061900]

Section 13. Disposal Considerations

Waste Disposal Methods (Federal, State, Local):

In accordance with all federal, state and local requirements.

RCRA Hazardous Waste Number: D002

Section 14. Transport Information

Hazardous Material Description:

(Proper shipping name, hazard class, hazard ID#, packing group)

Domestic ground non-bulk: CORROSIVE LIQUIDS, N.O.S., 8, UN1760, PG II (POTASSIUM HYDROXIDE, ETHANOLAMINE)

Domestic ground bulk: CORROSIVE LIQUIDS, N.O.S., 8, UN1760, PG II (POTASSIUM

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International: HYDROXIDE, ETHANOLAMINE)
CORROSIVE LIQUIDS, N.O.S., 8, UN1760, PG II (POTASSIUM
HYDROXIDE, ETHANOLAMINE)

Section 15. Regulatory Information

SARA 313 Information This product contains the following chemical(s) above de minimis concentrations and may be subject to reporting under section 313:
None.

Section 16. Other Information

This MSDS contains revisions in the following sections: New format

Prepared by: John A. DiCerbo Quality, EH&S Manager

Revised by: Andrew J. Thomas Chemist

The development of this Material Safety Data Sheet (MSDS) relies upon information provided to us by each of our raw material suppliers. This MSDS will be updated as changes occur to their MSDS(s).

We believe the recommendations and technical information contained herein to be accurate. However, they are given without warranty or guarantee, expressed or implied, and we assume no responsibility for losses or damage, direct or indirect, as a result of their use.