

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

MSDS No: M00087

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ammonia Reagent 2
Catalog Number: 2071649

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: M00087
Chemical Name: Not applicable
CAS Number: Not applicable
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Intended Use: Determination of ammonium nitrogen

2. HAZARDS IDENTIFICATION

GHS Classification:

Hazard categories: Corrosive to Metals: Met. Corr. 1 Acute Toxicity: Acute Tox. 3-Orl Acute Toxicity: Acute Tox. 3-Derm Acute Toxicity: Acute Tox. 4-Inh Skin Corrosion/Irritation: Skin Corr. 1A Specific Target Organ Toxicity - Repeated Exposure: STOT RE. 2 Hazardous to the Aquatic Environment: Aquatic Chronic 1

GHS Label Elements:

DANGER



Hazard statements: May cause damage to organs through prolonged or repeated exposure. May be corrosive to metals. Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Harmful if inhaled. May cause damage to liver through prolonged or repeated exposure by inhalation. Very toxic to aquatic life with long lasting effects.

Precautionary statements: Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Handle environmental release according to local, state, federal, provincial requirements. Wear protective gloves / protective clothing / eye protection / face protection. Wear respiratory protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. Wash contaminated clothing before reuse. Collect spillage. Dispose of contents/container according to state, local, federal or national regulations.

HMIS:

Health: 3

Flammability: 0

Reactivity: 1

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

NFPA:

Health: 3

Flammability: 0
Reactivity: 1
Symbol: Not applicable
WHMIS Hazard Classification: Class E - Corrosive material Class D, Division 1, Subdivision B - Toxic material (immediate effects)
WHMIS Symbols: Acute Poison Corrosive

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Lithium Hydroxide

CAS Number: 1310-65-2
Chemical Formula: LiOH · H₂O
GHS Classification: Met. Corr. 1, H290; Acute Tox. 3 -Orl., H301; Skin Corr. 1A, H314; Acute Tox. 3 - Inh, H331
Percent Range (Trade Secret): 80.0 - 90.0
Percent Range Units: weight / weight
PEL: 15 mg/m³ as inhalable dust; 5 mg/m³ as respirable dust
TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: CorrosiveAcute Poison

Potassium Mercuric Iodide

CAS Number: 7783-33-7
Chemical Formula: K₂HgI₄
GHS Classification: Acute Tox. 2 -Orl, H300; Acute Tox. 1 -Derm, H310; Acute Tox. 2 -Inh, H330; STOT Rep. 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410
Percent Range (Trade Secret): 5.0 - 15.0
Percent Range Units: weight / weight
PEL: 0.1 mg/m³ (Hg)
TLV: 0.1 mg/m³ (Hg)

WHMIS Symbols: Acute PoisonCorrosive

Potassium Iodide

CAS Number: 7681-11-0
Chemical Formula: KI
GHS Classification: Acute Tox 5 -Orl, H303; Skin Irr. 2, H315; Eye Irr. 2A, H319
Percent Range (Trade Secret): 1.0 - 5.0
Percent Range Units: weight / weight
PEL: 15 mg/m³ as total dust; 5 mg/m³ as respirable dust
TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: Other Toxic Effects

4. FIRST AID MEASURES

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

Advice to doctor: Treat symptomatically.

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

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

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

Extinguishing Media: Use media appropriate to surrounding fire conditions

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: None reported

Hazardous Combustion Products: Toxic fumes of: mercury iodine

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

Clean-up Technique: Mercury and its compounds are extremely toxic! Avoid breathing spilled material. Avoid contact with spilled material. Sweep up material. Dispose of material in government approved hazardous waste facility. Decontaminate area with commercially available mercury absorbing compounds.

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.

DOT Emergency Response Guide Number: 154

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: Protect from: heat Keep away from: acids metals oxidizers

Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Have a safety shower nearby. Have an eyewash station 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: safety glasses with top and side shields

Skin Protection: neoprene 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. Protect from: heat Keep away from: oxidizers acids/acid fumes

TLV: Not established

PEL: Not established

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow crystals

Physical State: Solid

Molecular Weight: Not applicable

Odor: Not determined

Odor Threshold: Not determined

pH: 5% soln = 11.2

Metal Corrosivity:

Corrosivity Classification: Classed as corrosive to skin. Not generally classed as corrosive to metals in addition to skin classification.

Steel: Not determined

Aluminum: Not determined

Specific Gravity/ Relative Density (water = 1; air =1): 1.48

Viscosity: Not applicable

Solubility:

Water: Soluble

Acid: Soluble
Other: Alcohol
Partition Coefficient (n-octanol / water): Not applicable
Coefficient of Water / Oil: Not applicable
Melting Point: decomposes @ 185°C; 365°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: During a fire, this product decomposes to form toxic gases.
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 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: alkalis oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: mercury Iodine
Conditions to Avoid: Heat Exposure to light.

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxicologically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data
ATE Oral LD50 = 96 mg/kg
ATE Dermal LD50 = 668 mg/kg
ATE Inhalation LD50 = 0.4 mg/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): Target Organs Kidneys Liver Central nervous system
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: Very Toxic Can cause: severe burns abdominal pain nausea vomiting dizziness diarrhea shock loosening of the teeth toxic nephritis (inflammation of the kidneys) central nervous system effects kidney damage liver damage coma death

Inhalation: Very Toxic Can cause: severe burns coughing shortness of breath mouth soreness abdominal pain headache muscular twitching central nervous system effects kidney damage liver damage loosening of the teeth
Skin Absorption: Very toxic Will be absorbed through the skin. Effects similar to those of ingestion
Chronic Effects: Mercury is a general protoplasmic poison; it circulates in the blood and is stored in the liver, kidneys, spleen and bones. Main symptoms are sore mouth, tremors and psychic disturbances. Mercury can cause personality changes such as: depression, despondency, fearfulness, restlessness, irritability, timidness, indecision and embarrassment. 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 central nervous system effects kidney damage liver damage brain damage
Medical Conditions Aggravated: Allergies or sensitivity to mercury. Pre-existing: Eye conditions Skin conditions Respiratory conditions Kidney conditions Liver conditions Central nervous system diseases

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: Potassium Tetraiodomercurate (II): LC50 Leucis cus idus 96h = 0.13 mg/l; EC50 Daphnia magna = 0.0052 mg/l;

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D009

Special Instructions (Disposal): Decontaminate any equipment or surfaces that have come in contact with mercury with commercially available mercury absorbing compounds. Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility. Dispose of material in an E.P.A. approved hazardous waste facility.

Empty Containers: Rinse three times with an appropriate solvent. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. 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. 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: Lithium Hydroxide Mixture

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Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN2680

Packing Group: II

T.D.G.:

Proper Shipping Name: Lithium Hydroxide Mixture

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Hazard Class: 8

Subsidiary Risk: NA

UN Number/PIN: 2680

Packing Group: II

I.C.A.O.:

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

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Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN2680

Packing Group: II

I.M.O.:

Proper Shipping Name: Lithium Hydroxide Mixture

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Hazard Class: 8

Subsidiary Risk: NA

ID Number: UN2680

Packing Group: II

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 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.

Mercury Compound

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

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

State Regulations:

California Prop. 65: WARNING - This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Identification of Prop. 65 Ingredient(s): Potassium Tetraiodomercurate (II)

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: Not applicable

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. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Vendor Information. In-house information. Technical Judgment.

Complete Text of H phrases referred to in Section 3: H301 Toxic if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H330 Fatal if inhaled. H373 May cause damage to organs through prolonged or repeated exposure. 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: 30

Month: January

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.

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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