



Material Safety Data Sheet



HMIS	
Health Hazard	3
Fire Hazard	0
Reactivity	0

PPE (See Section 15)



Section 1. Chemical Product and Company Identification

Trade Name **Metal Analysis Test 4** Code RE/MA4

Manufacturer **HazTech Systems, Inc.** CAS # 1336-21-6
P.O. Box 627 RTECS BQ9625000
164 Dinsmore TSCA TSCA 8(b) inventory:
Fortuna, CA 95540 Ammonium hydroxide

Commercial Name Ammonium hydroxide

Synonyms MA-4 CI #

In case of emergency contact CHEMTREC (24 hours) at 800-424-9300

HazTech Systems, Inc. 800-337-2497

Spectrum Chemical Mfg. Corp. 310-516-8000

Chemical Formula NH4OH

Supplier Spectrum Chemical Mfg. Corp.
 14422 S. San Pedro St.
 Gardena, CA 90248

Section 2. Composition and Information on Ingredients

Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m3)	STEL	CEIL (mg/m3)	
Ammonium hydroxide	1336-21-6				100%

Toxicological Data on Ingredients Ammonium hydroxide: ORAL (LD50): Acute: 350 mg/kg (Rat).

Section 3. Hazards Identification

Potential Acute Health Effects Extremely hazardous in case of eye contact (irritant). Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (corrosive). Slightly hazardous in case of skin contact (permeator). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire and Explosion Data

Flammability	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Point	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not applicable.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not applicable.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.
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Section 7. Handling and Storage

Precautions	If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes
Storage	Keep in HazCat Kit.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use in a well ventilated area.
Personal Protection	Gloves and goggles.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid	Volatility	Not available
Molecular Weight	Not available	Odor Threshold	5 ppm
pH (1% Solution in Water)	12 (Basic)	Water/Oil Dist. Coeff.	Not available
Boiling Point	Not available	Ionicity (in Water)	Not available
Melting Point	Decomposes.	Dispersion Properties	Not available
Critical Temperature	Not available	Solubility	Water
Specific Gravity	0.898 (Water = 1)	Odor	Not available
Vapor Pressure	63.3 kPa (@ 20°C)	Taste	Not available
Vapor Density	Not available	Color	Colorless

Section 10. Stability and Reactivity Data

Stability	Product is stable.	Corrosivity	Non-corrosive in presence of glass.
Instability Temperature	Not available.	Special Remarks on Corrosivity	Not available.
Conditions of Instability	Not available.	Polymerization	Will not polymerize.
Incompatibility with Various Substances	Not available.		

Section 11. Toxicological Information

Route of Entry	Eye contact. Inhalation. Ingestion.
Toxicity to Animals	Acute oral toxicity (LD50): 350 mg/kg (Rat).
Chronic Effects on Humans	Causes damage to the following organs: lungs, mucous membranes.
Other Toxic Effects on Humans	Extremely hazardous in case of eye contact (corrosive), of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive). Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification Class 8: Corrosive material

Identification : Ammonia Solution UNNA: UN2672 PG: III

Special Provisions for Transport Not applicable.

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations Pennsylvania RTK: Ammonium hydroxide
Massachusetts RTK: Ammonium hydroxide
TSCA 8(b) inventory: Ammonium hydroxide
CERCLA: Hazardous substances.: Ammonium hydroxide

California Proposition 65 Warnings

Other Regulation OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other classifications WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).
CLASS E: Corrosive liquid.

DSCL (EEC) R22- Harmful if swallowed.
R35- Causes severe burns.

Section 16. Other Information

Catalog Number(s) RE/MA4

References Not available.

Other Special Considerations Not available.

Validated by R. Houghton 8/06/01

Verified by R. Turkington

Call 1-800-543-5487

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Haztech Systems, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.