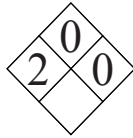




HAZTECH
SYSTEMS,™
INC.

Material Safety Data Sheet

NFPA



HMIS

Health Hazard	1
Fire Hazard	0
Reactivity	0

PPE (See Section 15)



Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	Acetylene Test 1 (#1)	Code	RE2122
Manufacturer	HazTech Systems, Inc. P.O. Box 929 Mariposa, CA 95338	CAS #	12125-02-9
Commercial Name	Ammonium chloride	RTECS	Not available.
Synonym	Sal ammoniac; Ammonium muriate	TSCA	Not available.
Chemical Name	Ammonium chloride	CI #	Not available.
Chemical Family		In case of emergency contact CHEMTREC (24 hours) at 800-424-9300	
Chemical Formula	NH ₄ Cl	HazTech Systems, Inc. 800-337-2497	
Supplier	Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865	Mallinckrodt Baker, Inc. 800-582-2537	

Section 2. Composition and Information on Ingredients

Name	CAS #	TWA (mg/m ³)	Exposure Limits		% by Weight
			STEL	CEIL (mg/m ³)	
Ammonium chloride	12125-02-9				
Toxicological Data on Ingredients	Oral rat LD ₅₀ : 1650 mg/kg investigated as a mutagen.				

Section 3. Hazards Identification

Potential Acute Health Effects <input type="checkbox"/>	Inhalation: Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Ingestion: Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Skin Contact: <input type="checkbox"/>
<input type="checkbox"/>	Causes irritation to skin. Symptoms include redness, itching and pain. Eye Contact: Causes irritation, redness and <input type="checkbox"/>
<input type="checkbox"/>	pain.
Potential Chronic Health Effects	No information found.

Continued on Next Page

**Section 4. First Aid Measures**

- Eye Contact Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids
 occasionally. Get medical attention.
- Skin Contact Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and
 shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
- Serious Skin Contact Not available.
- Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get
 medical attention.
- Serious Inhalation Not available.
- Ingestion Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an
 unconscious person. Get medical attention.
- Serious Ingestion Not available.

Section 5. Fire and Explosion Data

- Flammability Not considered to be a fire hazard. At fire temperatures, ammonium chloride begins to corrode metals and may
 dissociate into ammonia and hydrogen chloride. Mixtures of about 16% to 25% (by volume) ammonia gas in air are
 flammable.
- Auto-Ignition Temperature Not available.
- Flash Point Not available.
- Flammable Limits Not available.
- Products of Combustion Not available.
- Fire Hazards in Presence Not available.
of Various Substances
- Explosion Hazards in Presence Not considered to be an explosion hazard.
of Various Substances
- Fire Fighting Media Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire
and Instructions exposed containers cool.
- Special Remarks on In the event of a fire, wear full protective clothing and NIOSH approved self contained breathing
Fire Hazards apparatus with full face piece operated in the pressure demand or other positive pressure mode.
- Special Remarks on Not considered to be an explosion hazard.
Explosion Hazards

Section 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and
 containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. US Regulations (CERCLA)
 require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard
National Response Center is (800) 424-8802.

Continued on Next Page



Section 7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Section 8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

Ammonium chloride:

-ACGm Threshold Limit Value (TLV):

10 mg/m³ (TWA); 20 mg/m³ (STEL) Fume

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details. **Personal Respirators (NIOSH Approved):** If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. **Skin Protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. **Eye Protection:** Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9. Physical and Chemical Properties

Physical State and Appearance	White powder.	Volatility	Not available.
Molecular Weight	53.49	Odor Threshold	Not available.
pH (1% Solution in Water)	5.5 (1% aq. sol.); 5.1 (3% aq. sol.); 5.0 (10% aq. sol.)	Water/Oil Dist. Coeff.	Not available.
Boiling Point	520C (968F)	Ionicity (in Water)	Not available.
Melting Point	338C (640F) Sublimes	Dispersion Properties	Not available.
Critical Temperature	Not available.	Solubility	29.7g/100g water @ 0C (32F)
Specific Gravity	1.53	Odor	Odorless.
Vapor Pressure (mmHg)	1.0 @ 160C (320F)	Taste	Not available.
Vapor Density (Air = 1)	1.9	Color	White.

Section 10. Stability and Reactivity Data

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Involvement in a fire causes decomposition to form hydrogen chloride and ammonia.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Concentrated acids, strong bases, silver salts, potassium chlorate, ammonium nitrate, bromine trifluoride and iodine heptafluoride. Ammonium chloride reacts explosively with potassium chlorate or bromine trifluoride, and violently with bromide pentafluoride, ammonium compounds, nitrates, and iodine heptafluoride. Explosive nitrogen trichloride may result from reaction of ammonium chloride and hydrogen cyanide.

Conditions to Avoid:

Heat, moisture, incompatibles.

Continued on Next Page

**Section 11. Toxicological Information**Oral rat LD₅₀: 1650 mg/kg Investigated as a mutagen.

-----\Cancer Lists\-----

---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
Ammonium Chloride (12125-02-9)	No	No	None

Section 12. Ecological Information**Environmental Fate:**No information found. **Environmental Toxicity:**

No information found.

Section 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14. Transport Information

Not regulated.

Section 15. Other Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Ammonium Chloride (12125-02-9)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
-Ammonium Chloride (12125-02-9)	Yes	Yes	No	Yes <input type="checkbox"/>

-----\Federal, State & International Regulations -Part 1\-----

Ingredient	-SARA 302-----SARA 313----			
	RQ	TPQ	List	Chemical Catg.
Ammonium Chloride (12125-02-9)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient	-RCRA-		-TSCA-
	CERCLA	261.33	8(d)
Ammonium Chloride (12125-02-9)	5000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazetsem Code: None allocated.**Poison Schedule: None allocated.****WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Continued on Next Page

**Section 16. Other Information**

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

HARMFUL IF SWALLOWED OR INHALED.

Label Precautions:

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Wash thoroughly after handling.

Keep container closed.

Use only with adequate ventilation.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 8.

Disclaimer:

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Prepared by: Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)

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, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.



HAZTECH
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Material Safety Data Sheet



HMIS

Health Hazard	3
Fire Hazard	0
Reactivity	0

PPE (See Section 15)



Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	Acetylene Test 1 (#2)	Code	RE2122
Manufacturer	HazTech Systems, Inc. P.O. 929 Mariposa, CA 95338	CAS #	1336-21-6
Commercial Name	Ammonium hydroxide	RTECS	BQ9625000
Synonym	Aqueous ammonia; Strong Ammonia Solution Stronger Ammonia in Water.	TSCA	TSCA 8(b) inventory: Ammonium hydroxide
Chemical Name	Not applicable.	CI #	Not applicable.
Chemical Family	(Alkali)	In case of emergency contact CHEMTREC (24 hours) at 800-424-9300	
Chemical Formula	Not applicable.	HazTech Systems, Inc. 800-337-2497	
Supplier	Spectrum Chemical Mfg. Corp. 14422 S. San Pedro St. Gardena, CA 90248	Spectrum Chemical Mfg. Corp. 310-516-8000	

Section 2. Composition and Information on Ingredients

Name	CAS #	TWA (mg/m ³)	Exposure Limits		% by Weight
			STEL	CEIL (mg/m ³)	
1) Ammonia, anhydrous	7664-41-7	50	35		27-31
2) Water	7732-18-5				69-73
Toxicological Data on Ingredients	Ammonia, anhydrous LD ₅₀ : Not available. <input type="checkbox"/> LC ₅₀ : Not available.				

Section 3. Hazards Identification

Potential Acute Health Effects Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant), of ingestion. Non-corrosive to eyes. Non-corrosive for lungs. 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. Severe over-exposure can result in death. 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 upper respiratory tract, skin and eyes. Repeated or prolonged exposure to the substance can produce target organ damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation and respiratory tract irritation leading to frequent attacks of bronchial infection.

Continued on Next Page



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.
- In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove
- Skin Contact contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes
- before reuse. Get medical attention.
- Serious Skin Contact Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical
- attention.
- Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get
- medical attention.
- Serious Inhalation Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband.
- If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation.
- WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled
- material is toxic, infectious or corrosive. Seek medical attention.
- 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.
- Serious Ingestion Not available.

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 Hazardous decomposition include Nitric oxide, and ammonia fumes.
- Fire Hazards in Presence of Various Substances Not applicable.
- Explosion Hazards in Presence of Various Substances Non-explosive in presence of open flames and sparks, of shocks.
- Fire Fighting Media and Instructions Not applicable.
- Special Remarks on Fire Hazards Not available.
- Special Remarks on Explosion Hazards Forms explosive compounds with many heavy metals such as silver, lead, zinc and their
- halide salts. It can form shock sensitive compounds with halogens, mercury oxide and silver oxide.

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.**
- Large Spill Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for
- assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not
- present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page

**Section 7. Handling and Storage**

Precautions Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or label. Avoid contact with skin and eyes. Keep away from incompatibles such as metals, acids.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Personal Protection Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits TWA: 25 (ppm) from ACGIH (TLV) (United States: 50 STEL: 35 (ppm) from OSHA (PEL) (United States: 25 STEL: 35 from NIOSH Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Volatility	Not available.
Molecular Weight	35.05	Odor Threshold	5 - 50 ppm as ammonia.
pH (1% Solution in Water)	11.6 (Basic). This is the actual pH in a 1 N solution.	Water/Oil Dist. Coeff.	Not available.
Boiling Point	Not available.	Ionicity (in Water)	Not available.
Melting Point	-69.2°C (-92.6°F)	Dispersion Properties	See solubility in water.
Critical Temperature	Not available.	Solubility	Easily soluble in cold water.
Specific Gravity	0.898 (Water = 1)	Odor	Ammonia-like (strong).
Vapor Pressure	287.9 kPa (@20°C).	Taste	Acrid.
Vapor Density	Not available.	Color	Colorless.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, high temperatures.
Incompatibility with Various Substances	Highly reactive with metals. Reactive with acids. Slightly reactive to reactive with oxidizing agents.
Corrosivity	Extremely corrosive in presence of zinc or copper. Corrosive in presence of aluminum. Non-corrosive in presence of glass, of stainless steel (304), of stainless steel (316).
Special Remarks on Corrosivity	Dissolves copper and zinc. Corrosive to aluminum and it's alloys. Corrosive to galvanized surfaces. Severe corrosive effect on brass and bronze.
Polymerization	Will not occur.

Continued on Next Page



Acetylene Test 1 (#2)

Page Number:9 of 15

Section 11. Toxicological Information

Route of Entry Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals Acute oral toxicity (LD50): 350 mg/kg (Rat).

Chronic Effects on Humans MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. (Ammonium hydroxide). May cause damage to the following organs: mucous membranes, skin, eyes.

Other Toxic Effects on Humans Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion. Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals Highly toxic to aquatic organisms.

Special Remarks on Chronic Effects on Humans May affect genetic material based on tests with microorganisms and animals. May cause cancer (tumorigenic) based on animal data. No human data found at this time. (Ammonia, anhydrous).

Special Remarks on Other Toxic Effects on Humans Skin: Causes severe irritation, burns. May cause deep, penetrating ulcers of the skin. Contact of the skin may cause staining, inflammation and thickening of the skin. Eye: Contact with liquid or vapor causes severe burns and possible irreversible eye damage including corneal injury and cataracts. Inhalation: Causes severe irritation of the upper respiratory tract with coughing, burns, breathing difficulty. May cause acute pulmonary edema, pneumoconiosis, fibrosis and even coma. It is a respiratory stimulant when inhaled at lower concentrations. It may also affect brain/ behavior (convulsions, seizures, ataxia, tremor). Ingestion: Harmful if swallowed. Affects the gastrointestinal tract (burns, throat constriction, vomiting, convulsions, shock, and may cause severe and permanent damage), liver, and urinary tract. May affect behavior (convulsions, seizures, ataxia, excitement).

Section 12. Ecological Information

Ecotoxicity Ecotoxicity in water (LC50): 0.1 ppm 24 hours (Rainbow trout). 8.2 mg/l 96 hours (Fathead minnow). 0.1 ppm 48 hours (Bluegill).

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 less toxic than the product itself.

Special Remarks on the Products of Biodegradation Not available.

Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification Class 8: Corrosive material.

Identification :Ammonia Solution UNNA: 2672 PG:III

Special Provisions for Transport Not available.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations Connecticut hazardous material survey, Illinois toxic substances disclosure to employee act, Illinois chemical safety act, New York release reporting list, Pennsylvania RTK, Massachusetts RTK, Massachusetts spill list, New Jersey, New Jersey spill list, New Jersey toxic catastrophe prevention act, Louisiana spill reporting, California Director's List of Hazardous Substances (8 CCR 339), TSCA 8(b): Ammonium hydroxide.

CERCLA: Hazardous substances: Ammonium hydroxide: 1000 lbs. (453.6 kg)

Continued on Next Page

California Proposition 65 Warnings

Other Regulations OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

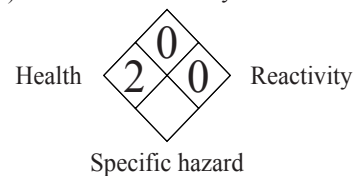
Other Classifications WHMIS (Canada) CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC)
 CLASS E: Corrosive liquid.
 DSCL (EEC) R25 - Toxic if swallowed. S24/25 - Avoid contact with skin and eyes.
 R34 - Causes burns. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
 S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	0
Personal Protection	

National Fire Protection Association (U.S.A.)

Flammability



WHMIS (Canada) (Pictograms)



TDG (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



Protective Equipment

ADR (Europe) (Pictograms)



Gloves.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Full suit.



Face shield.

Section 16. Other Information

Catalog Number(s) MSDS Code A5110

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 11/28/2001.

Verified by Sonia Owens. Printed 12/31/2001.

Call 1-800-543-5487

Notice to Reader

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HAZTECH
SYSTEMS,TM
INC.

Material Safety Data Sheet



HMIS

Health Hazard	2
Fire Hazard	0
Reactivity	0

PPE (See Section 15)



Section 1. Chemical Product and Company Identification

Common Name/ Trade Name Acetylene Test 1 (#3) Part # RE2122

Manufacturer HazTech Systems, Inc. CAS # 10031-43-3
P.O. Box 929 Mariposa, CA 95338 RTECS GL7875000

Commercial Name Cupric nitrate trihydrate TSCA TSCA 8(b) inventory: No products were found.

Synonym Copper (II) Nitrate trihydrate; Nitric acid, copper (2+) salt; trihydrate CI # Not applicable.

Chemical Name Copper (II) Nitrate trihydrate In case of emergency contact CHEMTREC (24 hours) at 800-424-9300

Chemical Family Not applicable HazTech Systems, Inc. 800-337-2497
Spectrum Chemical Mfg. Corp. 310-516-8000

Chemical Formula $\text{Cu}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$

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

Section 2. Composition and Information on Ingredients

Name	CAS #	TWA (mg/m3)	Exposure Limits		% by Weight
			STEL	CEIL (mg/m3)	
Cupric nitrate trihydrate <input type="checkbox"/>	10031-43-3	1	--	2	100

Toxicological Data ORAL (LD₅₀): Acute: 940 mg/kg (RAT).

on Ingredients

Section 3. Hazards Identification

Potential Acute Health Effects Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

Potential Chronic Health Effects CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to blood, kidneys, liver, cardiovascular system, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page

**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.
- 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.
- Serious Skin Contact Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
- Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Serious Inhalation Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. Seek medical attention.
- 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.
- Serious Ingestion Not available.

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 available.
- Fire Hazards in Presence of Various Substances Combustible materials.
- Explosion Hazards in Presence of Various Substances Risk of explosion of the product in presence of mechanical product: Not available.
Risk of explosion of the product in presence of static discharge: Not available.
- Fire Fighting Media and Instructions Not applicable.
- Special Remarks on Fire Hazards Ignites paper spontaneously in the presence of moisture.
- Special Remarks on Explosion Hazards Not available.

Section 6. Accidental Release Measures

- Small Spill Use appropriate tools to put the spilled solid in a convenient waste disposal container.
- Large Spill Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing,...).
Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Continued on Next Page



Section 7. Handling and Storage

- Precautions** Oxidizer. Keep away from heat. Keep away from sources of ignition. Keep away from combustible material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, combustible materials, organic materials.
- Storage** Deliquescent. Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers. Do not store above 25° C (77° F)

Section 8. Exposure Controls/Personal Protection

- Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Personal Protection** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
- Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product
- Exposure Limits** TWA:1 CEIL:2 from OSHA (PEL) (United States) Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (Deliquescent crystals solid.)	Volatility	Not available.
Molecular Weight	241.6 g/mole	Odor Threshold	Not available.
pH (1% Solution in Water)	Not available.	Water/Oil Dist. Coeff.	Not available.
Boiling Point	Not available.	Ionicity (in Water)	Not available.
Melting Point	114.5° C (238.1° F)	Dispersion Properties	See solubility in water.
Critical Temperature	Not available.	Solubility	Soluble in cold water.
Specific Gravity	2.32 (Water = 1)	Odor	Not available.
Vapor Pressure	Not applicable.	Taste	Not available.
Vapor Density	8.33 (Air = 1)	Color	Blue.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials.
Incompatibility with Various Substances	Reactive with reducing agents.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

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**Section 11. Toxicological Information**

Route of Entry Inhalation. Ingestion.

Toxicity to Animals Acute oral toxicity (LD₅₀): 940mg/kg (Rat).

Chronic Effects on Humans May cause damage to the following organs: blood, kidneys, liver, cardiovascular system, central nervous system (CNS).

Other Toxic Effects on Humans Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

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 Skin: May cause severe irritation with possible burns. May cause dermatitis, and skin discoloration. Eyes: May cause severe irritation and possible eye burns. May cause ulceration of the conjunctiva and cornea. Inhalation: May cause severe irritation of the upper respiratory tract. Ingestion: May cause severe gastrointestinal tract irritation.

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 less toxic than the product itself.

Special Remarks on the Products of Biodegradation Not available.

Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification CLASS 5.1: Oxidizing material.

Identification :Nitrate, inorganic, n.o.s. (Cupric Nitrate) UNNA: UN1477 PG:III

Special Provisions for Transport Marine Pollutant

DOT (Pictograms)

**Section 15. Other Regulatory Information and Pictograms**

Federal and State Regulations No products were found.

□

California Proposition 65 Warnings

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

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Other Classifications WHMIS (Canada) Not controlled under WHMIS (Canada) □
 DSCL (EEC) R8 - Contact with combustible material may cause fire. R22 - Harmful if swallowed. □
 R36/38 - Irritating to eyes and skin. S2 - Keep out of the reach of children. S46 - □
 If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.)

National Fire Protection
Association (U.S.A.)

Flammability

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

Health  Reactivity
Specific hazard

WHMIS (Canada)
(Pictograms)DSCL (Europe)
(Pictograms)TDG (Canada)
(Pictograms)ADR (Europe)
(Pictograms)

Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent.



Splash goggles.

Section 16. Other Information

Catalog Number(s) C1405, C1407

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 4/17/2002.

Verified by Sonia Owen. Printed 7/8/2002

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, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.