



SAFETY DATA SHEET

Name of Product:

AQUA AMMONIA

Product #: See Section 1
Revision Date: May 20, 2016

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Aqua Ammonia
SYNONYMS: Ammonium Hydroxide, Ammonia solution, Aqueous Ammonia
PRODUCT CODES: C000007, C000016, F000009, F000146

MANUFACTURER: NACHURS ALPINE SOLUTIONS®

CORPORATE ADDRESS: 421 Leader Street Marion, OH 43302

PHONE: 800-622-4877 (USA)
800-265-2268 (CANADA)

EMERGENCY PHONE: United States: Chemtrec: 800-424-9300 (CCN# 15189)
Canada: CANUTEC: 1-613-996-6666
I TECH 877-324-4402

CHEMICAL NAME: 9-24% Ammonium Hydroxide Solution
CHEMICAL FAMILY: Inorganic
CHEMICAL FORMULA: NH₄OH

PRODUCT USE: Manufacturer of fertilizers, pharmaceuticals, lubricants, household cleaners

PREPARED BY: NACHURS ALPINE SOLUTIONS®

SECTION 2: HAZARDS IDENTIFICATION

GHS ELEMENTS:

Hazard Classification: Acute Toxicity, Oral (Category 4)
Skin Corrosion (Category 1B)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 1)

Pictogram:



Signal Word: Danger

Hazard Statements: Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Very toxic to aquatic life.

Precautionary Statements: Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, clothing, eye and face protection. Use appropriate respiratory controls or protection. Avoid release to the environment. If swallowed, call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. If on skin/hair, take off all contaminated clothing. Rinse skin/hair thoroughly with water/shower. If inhaled, remove person to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and able to do so. Continue rinsing. Immediately call a poison center or doctor/physician. See First Aid section for specific treatments. Wash all contaminated clothing before reuse. Contain and collect spillage. Prevent release to the environment. Store in a secure location. Dispose of contents/container to an approved waste disposal plant.

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POTENTIAL HEALTH EFFECTS

EYES: Corrosive! Effects as a result of direct contact with aqua ammonia or exposure to ammonia gas may range from irritation and lacrimation to severe injury and blindness

SKIN: Corrosive! Concentrated solution may cause pain and deep and severe burns

INGESTION: Corrosive! Causes severe pain in the mouth, chest, and abdomen leading to cough, vomiting and collapse. Gastric or esophageal perforation may occur and lung irritation or pulmonary edema may have a delayed effect

INHALATION: Corrosive! Mists of ammonia gas may cause irritation and inflammation of the respiratory system resulting in hoarseness and tightness of the throat, laryngitis, bronchopneumonia and pulmonary edema that may be fatal. Productive cough with blood stained sputum may develop. Airway obstruction and diminished diffusion capacity and impaired ciliary function may result from overexposure

ACUTE HEALTH HAZARDS: Corrosive effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.

CHRONIC HEALTH HAZARDS: None Reported

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Chronic respiratory or skin disease.

CARCINOGENICITY:

OSHA: None Reported
ACGIH: None Reported
NTP: None Reported
IARC: None Reported
OTHER: N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Ammonium Hydroxide

CAS NO.: 1336-21-6
% WT: 9-24%
% VOL:

SARA 313 REPORTABLE: N/A
pmm:
mg/m3:

OSHA PEL-TWA: 50 ppm (8 hrs)
OSHA PEL STEL: N/A
OSHA PEL CEILING: 300 ppm

ACGIH TLV-TWA: 25 ppm (8 hrs)
ACGIH TLV STEL: 35 ppm (8 hrs)
ACGIH TLV CEILING: 300 ppm

SECTION 3 NOTES: Balance ingredient is non-hazardous Water CAS NO.: 7732-18-5

SECTION 4: FIRST AID MEASURES

EYES: Immediately flush eyes with running water for a minimum of 30 minutes, preferably up to 60 minutes. Hold eyelids open during flushing. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.

SKIN: Flush skin with running water for a minimum of 20 minutes. Start flushing while removing contaminated clothing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport.

INGESTION: If victim is alert and not convulsing, rinse out mouth and give 1/2 to 1 glass of water to dilute material. DO NOT induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid

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breathing in vomitus, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If not breathing and no pulse give cardiopulmonary resuscitation (CPR). Keep patient warm and at rest. Obtain medical attention immediately.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

Pulmonary edema may be delayed. Injury may be more severe than would be indicated on early presentation. Medical conditions that may be aggravated by exposure include asthma, bronchitis, emphysema and other lung diseases and chronic nose, sinus or throat conditions. In the event of skin or eye contact, rapid and thorough flushing is essential.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR: UPPER: 25 (For Ammonia)
(% BY VOLUME) LOWER: 16

FLASH POINT: N/A

METHOD USED: NA

AUTOIGNITION TEMPERATURE: For ammonia - 1203.8°F (651°C)

NFPA HAZARD CLASSIFICATION:

HEALTH: 3

FLAMMABILITY: 1

REACTIVITY: 0

OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH: 4

FLAMMABILITY: 1

REACTIVITY: 2

PROTECTION:

EXTINGUISHING MEDIA: Small Fires: CO₂, Dry Chemical; Large Fires: Water Spray, Fog or Foam

SPECIAL FIRE FIGHTING PROCEDURES: Use water to keep fire exposed containers cool. Use water fog to reduce vapour concentration if necessary. Full protective equipment including a self-contained breathing apparatus should be worn in a fire involving the material

UNUSUAL FIRE AND EXPLOSION HAZARDS: Contact with strong oxidizers will cause fires or explosions

HAZARDOUS DECOMPOSITION PRODUCTS: Will liberate ammonia if heated. Nitrogen oxides (NO_x)

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Wear personal protective equipment. Avoid breathing vapors, mists or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. See Personal Protection section.

Stop the discharge if possible and contain by constructing barrier (dykes, lagoons) for release to land, reclaim product for reuse or treat with neutralizing agent and recover for disposal. For release to water, contain by damming and water diversion if possible, neutralize and recover for disposal. Use water spray to control vapours. Report significant spills to government environmental authorities.

DEACTIVATING MATERIALS: If necessary, neutralize residue from small spills with dilute solution of acetic acid.

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SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid contact with liquid or vapours. Direct contact with mercury must be avoided. Store in dry, well-ventilated area away from incompatible materials. Protect against physical damage. Keep out of direct sunlight and away from heat sources. Material may attack zinc, copper, mercury, tin and their alloys and some forms of plastics, rubbers and coatings.

OTHER PRECAUTIONS: Containers should be kept well sealed when not in use. Handle as a corrosive liquid. Wash thoroughly after handling.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Good ventilation should be sufficient to control airborne levels of material.

VENTILATION: Local exhaust ventilation required. Supply sufficient replacement air to make up for air removed by exhaust systems. Use non-sparking, corrosion-resistant ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas of use.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION: NIOSH/MSHA approved air-purifying respirator equipped with ammonia cartridge for concentrations up to 250 ppm NH₃. Air-supplied respirator for high or unknown concentrations.

EYE PROTECTION: Gas tight chemical goggles

SKIN PROTECTION: Nitrile rubber, neoprene, or PVC gloves and protective clothing should be used.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Face shield, rubber boots, resistant clothing

WORK HYGIENIC PRACTICES: Emergency shower and eyewash should be in close proximity. Wash hands thoroughly after use.

EXPOSURE GUIDELINES: (See Section 3)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colourless liquid

ODOR: Pungent irritating odour

ODOR THRESHOLD: 0.043 to 5 ppm at 30%

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 12.0 (neat)

BOILING POINT:
F°: 80.6°F
C°: 27°C

MELTING POINT:
F°: -29.2°F
C°: -34°C

FREEZING POINT:
F°: -29.2°F
C°: -34°C

FLASH POINT:
F°: N/A
C°: N/A

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METHOD USED:	N/A
EVAPORATION RATE: BASIS (=1):	Not Available
FLAMABILITY:	Not flammable.
FLAMMABLE LIMITS IN AIR: (% BY VOLUME)	UPPER: N/A LOWER: N/A
VAPOR PRESSURE (mmHg)	475 @ 15.5°C (59.9°F)
VAPOR DENSITY (AIR = 1)	0.618 for ammonia @ 15°C
SPECIFIC GRAVITY (H ₂ O = 1)	0.9283 to 0.8974 kg/L @ 15.5°C (59.9°F)
DENSITY:	0.9283-0.8974 kg/L 9.9-12.83 LBS/GAL
SOLUBILITY IN WATER:	100% soluble in water, also soluble in Methanol and Ethanol
PARTITION COEFFICIENT:	n-octanol/water – N/A
PERCENT SOLIDS BY WEIGHT:	9-24%
PERCENT VOLATILE:	N/A
VOLATILE ORGANIC COMPOUNDS (VOC):	None
AUTOIGNITION TEMPERATURE:	N/A
THERMON DECOMPOSITIONS:	N/A
MOLECULAR WEIGHT:	35.05 g/mol
VISCOSITY:	Same as water

SECTION 10: STABILITY AND REACTIVITY

	STABLE	UNSTABLE
STABILITY:	x	
CONDITIONS TO AVOID (STABILITY):	Excessive heat	
INCOMPATIBILITY (MATERIAL TO AVOID):	Contact with oxidizers (calcium hypochlorite, bleaches) and salts of heavy metals (gold, mercury, lead, zinc and silver) may form highly explosive products. Contact with iodine, bromine, and chlorine may cause violent spattering.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Will liberate ammonia gas if heated. Nitrogen oxides (NO _x).	
HAZARDOUS POLYMERIZATION:	Will not occur	
CONDITIONS TO AVOID (POLYMERIZATION):	N/A	

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SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No toxicological data established for this product. For Ammonia:

ACUTE INHALATION: LC50 (Inhalation, Mouse): 2115 ppm (4 hrs)
LCLO (Inhalation, Human): 5000 ppm (5 mins)

ACUTE INGESTION: LD50 (Oral, Rat): 350 mg/kg

CHRONIC TOXICITY: Carcinogenicity: Not considered to be carcinogenic as per IARC, NTP, OSHA and ACGIH.
Reproductive: Not available
Teratogenicity: Not available.
Mutagenicity: Insufficient data. Chromosomal changes in rats exposed to 28 ppm for 16 weeks.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Do not allow to enter drinking water intakes. Ammonium hydroxide is harmful to aquatic life even at low concentrations (96 hour TLm = 10-100 ppm). Release into a body of water can significantly alter the nutrient composition which can affect aquatic plants, fish and animal life. It may lead to eutrophication and algae blooms. Does not bioaccumulate.

ACUTE TOXICITY: No data established for this product. For ammonia:

LC50 (Bluegill sunfish, 48 hrs): 0.024-0.093 mg/L
LC50 (Fathead minnow, 96 hrs): 8.2 mg/L
EC50 (Daphnia magna, 48 hrs): 0.66 mg/L

BIODEGRADABILITY: Products of biodegradation (nitrogen oxides) are more toxic than the original product.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Restrict access to the area until cleanup is complete. Ensure the proper protective equipment is used. Stay upwind and out of low areas and ventilated closed spaces before entering. Extinguish all ignition sources. Maximize recovery or absorbed spill with an inert material (sand/earth/kitty litter) and place in a suitable container. Dispose of at approved landfill sites or by incineration in accordance with local, provincial or federal regulations. Do not dispose of waste with normal garbage or in local sewerage system.

For major spills, consult trained personnel and environmental agencies to help with the cleanup.

RCRA HAZARD CLASS: N/A

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION/TRANSPORT CANADA

PROPER SHIPPING NAME: Ammonia Solution
HAZARD CLASS: Corrosive, Class 8 (9.2)
ID NUMBER: UN2672
PACKING GROUP: III
LABEL STATEMENT:
Health: 3 Flammability: 1 Reactivity: 0 Specific: None

WATER TRANSPORTATION:
PROPER SHIPPING NAME: Ammonia Solution
HAZARD CLASS: Corrosive, Class 8 (9.2)
ID NUMBER: UN2672
PACKING GROUP: III
LABEL STATEMENTS:
Health: 3 Flammability: 1 Reactivity: 0 Specific: None

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AIR TRANSPORTATION

PROPER SHIPPING NAME: Ammonia Solution
HAZARD CLASS: Corrosive, Class 8 (9.2)
ID NUMBER: UN2672
PACKING GROUP: III
LABEL STATEMENTS:
Health: 3 Flammability: 1 Reactivity: 0 Specific: None

OTHER AGENCIES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA (TOXIC SUBSTANCE CONTROL ACT): Yes

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): No

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): RQ: 100
TPQ: 500

311/312 HAZARD CATEGORIES: Corrosive, Class 8 (9.2)

313 REPORTABLE INGREDIENTS: Aqua Ammonia

STATE REGULATIONS: N/A

INTERNATIONAL REGULATIONS: N/A

CANADA FEDERAL REGULATIONS:

WHMIS CLASSIFICATIONS: D1B-Toxic
E-Corrosive Substance
DSL (Domestic Substance List): Aqua Ammonia: Yes

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

PREPARATION INFORMATION: Technical Services Department

DISCLAIMER: The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and NACHURS ALPINE SOLUTIONS® will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein.

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