

MATERIAL SAFETY DATA SHEET

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Mon-Fri 8 am - 4:30 pm

24 Hour Emergency
Telephone Number
CHEMTREC
1-800-424-9300

SECTION 1 PRODUCT IDENTIFICATION

PRODUCT NAME: AMMONIA SOLUTION

CATALOG NUMBER:

HF scientific, inc.: 10198
U.S. Filter/Wallace & Tiernan: U409

CHEMICAL FAMILY: AMMONIA

SYNONYMS: AQUA AMMONIA, AMMONIA WATER, AMMONIA HYDRATE

FORMULA:

NH ₄ OH	CAS# 1336-21-6	18%
H ₂ O	CAS# 7732-18-5	82%

SECTION 2 HAZARDOUS INGREDIENTS

Hazardous Ingredient(s)	OSHA	ACGIH	Other Limits Recommended
_Ammonium Hydroxide	35 ppm STEL	35 ppm STEL	
CAS # 1336-21-6	25 ppm PEL	25 ppm TWA	

SECTION 3 PHYSICAL DATA

MELTING POINT: -72°C (-98°F)
BOILING POINT: 36°C (97°F)
SPECIFIC GRAVITY (H₂O=1): 0.92
VAPOR PRESSURE (mm Hg): 115 at 20°C (68°F)
VAPOR DENSITY (AIR=1): 1.2
EVAPORATION RATE (H₂O = 1): Similar
SOLUBILITY IN WATER: Indefinite
APPEARANCE AND ODOR: Clear, colorless solution at room temperature with the odor of ammonia.
PERCENT VOLATILE: 100% at 212°F

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

AUTOIGNITION TEMPERATURE: 651°C (1204°F) as NH₃
FLAMMABLE LIMITS IN AIR VOLUME % AS NH₃: LEL 16%
UEL 27%
EXTINGUISHING MEDIA: Use any means suitable for extinguishing surrounding fire. Use water spray to blanket fire, cool fire exposed containers, and flush non-ignited spills or vapors away from fire.
FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and protective clothing.

UNUSUAL FIRE & EXPLOSIVE HAZARD: See National MSDS

SECTION 5 HEALTH EFFECTS AND FIRST AID

Route(s) Of Entry: Inhalation? Yes. Skin? No.* Ingestion? Yes.
*Contact may cause skin damage.

HEALTH HAZARDS (Acute & Choice):

Inhalation: May cause irritation to the respiratory tract, symptoms may include coughing, sore throat, and labored breathing. High concentrations may cause laryngitis, tracheitis, pulmonary edema, chest pains, or pneumonitis.
Ingestion: Toxic! May cause corrosion to the esophagus and stomach with perforation and peritonitis. Symptoms may include pain in the mouth, chest, and abdomen, with coughing, vomiting and collapse.

Skin Contact: May cause skin burns with vesication.

Eye Contact: Vapors may cause irritation. Splashes may cause severe pain and eye injuries such as glaucoma, corneal scars, iris atrophy, and cataracts.
Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: Persons with pre-existing eye disorders or impaired respiratory function may be more susceptible to the effects of this material.

CARCINOGENICITY: NTP? IARC Monographs? OSHA Regulated?

EMERGENCY FIRST AID PROCEDURES:

Eye: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.
Ingestion: Give several glasses of water to drink to dilute. Vomiting may occur spontaneously, but do not induce. Get medical attention immediately.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SECTION 6 REACTIVITY DATA

STABILITY: Stable under ordinary conditions of use and storage.
CONDITIONS TO AVOID: Extreme heat.
INCOMPATIBILITY (MATERIALS TO AVOID): Acids, acrolein, dimethyl sulfate, halogens, silver nitrate, propylene oxide, nitromethane, silver oxides, silver permanganate, oslum, beta-probiolactone.
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Emits toxic fumes of ammonia and nitric oxides when heated to decomposition.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 7 SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Ventilate and evacuate area. Clean-up personnel require protective clothing and respiratory protection from vapors. Allow only qualified personnel to handle the spill. Contain and recover liquid when possible. Spills may be neutralized with dilute hydrochloric acid or dilute sulfuric acid and discharged to sewer with large amounts of water. Regulations for pH, ammonia content and salts for effluents must be considered. Do not flush directly into sewers. Alternately, spills may be absorbed with dry inert material and collected for disposal in a RCRA approved facility. Reportable Quantity (RQ) (CWA/CERCLA): 1000 lbs.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.
PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: Keep away from heat and flame. Keep container closed when not in use.
OTHER PRECAUTIONS: Isolate from incompatible substances.

SECTION 8 CONTROL MEASURES

RESPIRATORY PROTECTION: If the TLV is exceeded, a dust / mist respirator with chemical goggles may be worn, in general, 10 times the TLV. Alternatively, a full face respirator or airline hood may be worn.
VENTILATION SYSTEMS: Local exhaust ventilation to keep below exposure limits.
SKIN PROTECTION: Wear appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.
EYE PROTECTION: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Contact lenses should not be worn when working with this material.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eyewash stations in use area.
WORK/HYGIENIC PRACTICES: Wash well after handling. Avoid breathing vapors.

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