

SECTION VI. HEALTH HAZARD INFORMATION	TLV 25 ppm/50 ppm (See Sect. II)
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Ammonium hydroxide is irritating and corrosive to body tissues. Excessive inhalation of vapors is irritating to the mucous membranes of the respiratory tract and can result in headache, coughing, severe lung congestion (edema and difficulty in breathing). Skin contact with liquid can irritate, redden and cause burns. Liquid contact with the eye can be severely damaging and can result in loss of vision. Ingestion is corrosive to the digestive tract.

FIRST AID:

Eye Contact: Immediately flush with lots of running water for at least 15 min., including under the eyelids; then contact physician immediately, preferably an ophthalmologist. Speed and thoroughness in rinsing eyes is important to avoid permanent injury.

Skin Contact: Immediately flush with lots of water while removing contaminated clothing and shoes. Get medical help promptly if large areas are affected or irritation persists.

Inhalation: Remove to fresh air. Restore breathing if required and/or have trained person administer oxygen if breathing is difficult. Keep warm and at rest. Contact physician promptly.

Ingestion: If conscious, promptly give lots of water or dilute vinegar or citrus juice to drink, followed by milk. Do not induce vomiting. Contact physician.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Prepare written plans for emergency. Inform safety personnel of large spills and evacuate area. Provide ventilation. Those involved in clean up need protection against contact with liquid and inhalation of mist or vapors. Contain spill for recovery when feasible or flush with water to holding area for neutralization (do not flush directly to sewer or surface water.)

DISPOSAL: Follow Federal, State and Local regulations for pH, NH₃ content, and salts content for effluents. Ammonium hydroxide can be diluted with water, neutralized as required with dilute HCl or dilute H₂SO₄, and then lightly diluted with water for discharge. Suitable scrap ammonium hydroxide might be considered for use in neutralizing acidic wastes. If desired, aqueous NH₃ can be recovered from scrap for use or sale.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation as required to meet TLV. For emergency and nonroutine conditions above the TLV a chemical cartridge respirator with a full-facepiece respirator is suitable for exposures below 300 ppm; above 300 ppm or if concentration unknown use approved self-contained respirator with full facepiece.

Use splash-proof, chemical safety goggles, and where needed, a faceshield or mask to protect against splashes and from mists and NH₃. Use a rubber suit, boots, gloves, apron, or other protective clothing as required for workplace conditions to prevent contact with ammonium hydroxide solutions.

An eyewash station and a safety shower must be immediately accessible to workers where this material is used or handled. Washing facilities and large amounts of clean water must be available for emergency use where spills may occur.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in a cool (below 80 F to avoid pressurization above 1 atm) area in closed containers, away from sources of heat, direct sunlight, and incompatible materials (see, for example, Sec. V). Handle as a corrosive liquid. Prevent damage to containers. Above 50 F, the ammonia vapor from this material can be a serious hazard in a spill situation. Use caution in opening sealed containers for proper pressure relief. Drain emptied containers well & flush with water before discarding.

Work practices and equipment must be arranged to prevent contact of ammonium hydroxide with the worker's body and to avoid inhalation of vapors. Train workers in proper handling of ammonium hydroxide.

Preplacement and periodic medical exam is recommended for ammonia workers and additional exams should be provided if excessive exposure occur. Keep records. Preclude from exposure workers with eye or pulmonary diseases.

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