



Serving Scientific Community
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TECHNO PHARMCHEM

An ISO 9001 : 2008 Certified Company

Registered Off. : 101-A, Deep Enclave, Pocket 'D', Ashok Vihar, Phase-III, Delhi-110 052 (India)
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AMMONIA SOLUTION

1. Product Identification

Synonyms: Ammonia Aqueous; Aqua Ammonia; Ammonia TS

CAS No.: 1336-21-6

Molecular Weight: 17.03

Chemical Formula: NH_3

Product Code: 29275, 29276, 29277

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Ammonia	1336-21-6	25 - 30%

3. Hazards Identification

Potential Health Effects

Inhalation: Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may be fatal as a result of spasm inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Ingestion: Swallowing can cause severe burns of the mouth, throat, and stomach.

Can cause sore throat, vomiting, diarrhea

Skin Contact: Dermal contact with alkaline corrosives may produce pain, redness, severe irritation or Full thickness burns. May be absorbed through the skin with possible systemic effects.

Eye Contact: Can cause blurred vision, redness, pain, severe tissue burns and eye damage. Eye exposure may result in temporary or permanent blindness.

Chronic Exposure: Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure may cause eye, liver, kidney, or lung damage.

Aggravation of Pre-existing Conditions: No information found.

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire: Autoignition temperature: 651C (1204F)

Flammable limits in air % by volume: lel: 16; uel: 25

Not considered to be a fire hazard.

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Explosion: Not considered to be an explosion hazard. Closed containers exposed to heat may explode.
Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool. Do not allow water runoff to enter sewers or waterways.
Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Carefully neutralize spill with dilute HCl. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Use water spray to cool, absorb, and disperse vapors. Do not use combustible materials, such as saw dust. Do not flush to sewer.

7. Handling and Storage

Store below 25°C. Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

For Ammonia:

- OSHA Permissible Exposure Limit (PEL) - 50 ppm (TWA)
- ACGIH Threshold Limit Value (TLV) 25 ppm (TWA), 35 ppm (STEL).

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.

Personal Respirators : If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an ammonia/methylamine cartridge 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. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

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 a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Clear, colorless liquid.

Odor: Intense, pungent, suffocating odor.

Solubility: Complete (100%)

Specific Gravity: ca. 0.91 @ 20°C/20°C

pH: 11.6 (1.0N)



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% Volatiles by volume @ 21C (70F): 100

Boiling Point: No information found.

Melting Point:- 77C (-107F)

Vapor Density (Air=1): 0.59 (ammonia gas)

Vapor Pressure (mm Hg): No information found.

Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: Burning may produce ammonia, nitrogen oxides.

Hazardous Polymerization: Will not occur.

Incompatibilities: Ammonia (anhydrous) is incompatible with mercury, chlorine, calcium hypochlorite, hydrofluoric acid (anhydrous), bromine pentafluoride, chlorine trifluoride, chloroformates, strong acids, strong oxidizing agents, brass, zinc, aluminum, copper, bronze, most common metals and dimethyl sulfate.

Conditions to Avoid: Heat, direct sunlight, incompatibles.

11. Toxicological Information

For Ammonia: LC50 inhalation rat 2000 ppm/4H. Investigated as a tumorigen and mutagen.

12. Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

13. Disposal Considerations

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Proper Shipping Name: Ammonia Solution

Hazard Class: 8

UN/NA: UN2672

Packing Group: III

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

Chemical Safety Assessment : It has not been carried out.

16. Other Information

Product Use:

Laboratory Reagent