Ammonia

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: **Ammonia**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25164A**

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

Emergency telephone number:

Fisher Science Education
Emergency Telephone No.: 800-535-5053

SECTION 2: Hazards identification

Classification of the substance or mixture:

Corrosive
Skin corrosion, category 1B

Environmentally Damaging
Acute hazards to the aquatic environment, category 1

Irritant
Specific target organ toxicity following single exposure, category 3

STOT SE 3.
AcAq Tox 1.
Skin Corr. 1B.

Signal word: Danger

Hazard statements:

Causes severe skin burns and eye damage.
May cause respiratory irritation.
Very toxic to aquatic life.

Precautionary statements:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.

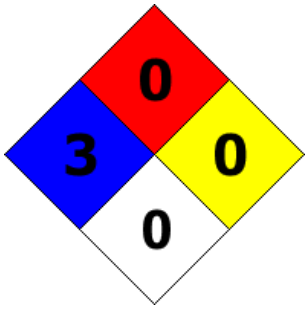
Use personal protective equipment as required.
Do not eat, drink or smoke when using this product.
Wash skin thoroughly after handling.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Collect spillage.
Specific treatment (see supplemental first aid instructions on this label).
Wash contaminated clothing before reuse.
Store locked up.
Store in a dry place.
Store in a well ventilated place. Keep container tightly closed.
Dispose of contents/container to ....

Other Non-GHS Classification:

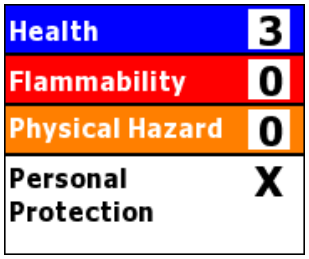
WHMIS

E

NFPA/HMIS



NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 1336-21-6	Ammonium Hydroxide, ACS	12.32 %
CAS 7732-18-5	Deionized Water	87 %
		Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

After skin contact:

Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After eye contact:

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing agents: None

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Advice for firefighters:

Protective equipment:

Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Transfer to a disposal or recovery container. Use spark-proof tools and explosion-proof equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect solids in powder form using vacuum with (HEPA filter).

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities:

Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Store with like hazards.

SECTION 8: Exposure controls/personal protection

Control Parameters:	1336-21-6, Ammonium Hydroxide, ACGIH TLV: 17 mg/m3. 1336-21-6 , Ammonium Hydroxide , OSHA PEL: 35 mg/m3. 1336-21-6, Ammonium Hydroxide, OSHA TWA 25 ppm (18 mg/m3) ST 35 ppm (27 mg/m3). 1336-21-6, Ammonium Hydroxide, ACGIH TWA 25 ppm (18 mg/m3) ST 35 ppm (27 mg/m3).
Appropriate Engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Respiratory protection:	Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
Protection of skin:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

Ammonia

Appearance (physical state, color):	Clear, colorless liquid.	**Explosion limit lower**: **Explosion limit upper**:	Not Determined Not Determined
Odor:	Ammonia-like	**Vapor pressure at 20°C**:	115 at 20 C
Odor threshold:	Not Determined	**Vapor density**:	3.38
pH-value:	9	**Relative density**:	0.9
Melting/Freezing point:	- 72 C	**Solubilities**:	Infinite solubility in water.
Boiling point/Boiling range:	36 C	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Determined	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	Not Determined	**Decomposition temperature**:	Not Determined
Flammability (solid, gaseous):	Not Determined	**Viscosity**:	a. Kinematic: Not Determined b. Dynamic: Not Determined
Density at 20°C:	0.9 g/cm3 at 20 °C		

SECTION 10: Stability and reactivity

Reactivity: None

Chemical stability:

No decomposition if used and stored according to specifications.

Possible hazardous reactions: None

Conditions to avoid:

Store away from oxidizing agents, strong acids or bases.

Incompatible materials:

Strong oxidizers, acids, gold, mercury, halogens, silv er, calcium hypochlorite bleaches.

Hazardous decomposition products:

Ammonia and nitrogen oxides.

SECTION 11: Toxicological information

Acute Toxicity:

Oral:

LD50: 350 mg/kg (rat) Ammonium Hydroxide (1336-21-6)

Chronic Toxicity: No additional information.
Corrosion Irritation: No additional information.
Sensitization: No additional information.
Numerical Measures: No additional information.
Carcinogenicity: No additional information.
Mutagenicity: No additional information.
Reproductive Toxicity: No additional information.

SECTION 12: Ecological information

Ecotoxicity:

Fish (acute 1336-21-6): 96 Hr LC50 Pimephales promelas: 8.2 mg/L

Crustacea (acute 1336-21-6): 48 Hr EC50 water flea: 0.66 mg/L; 48 Hr EC50 Daphnia pulex: 0.66 mg/L

Persistence and degradability:

Readily degradable in the environment.

Bioaccumulative potential: No additional information.
Mobility in soil: No additional information.
Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14: Transport information

US DOT

UN Number:
ADR, ADN, DOT, IMDG, IATA 2672

Limited Quantity Exception: None

Bulk:
RQ (if applicable): None
Proper shipping Name: Ammonia Solution.
Hazard Class: 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

Non Bulk:
RQ (if applicable): None
Proper shipping Name: Ammonia Solution.
Hazard Class: 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

1336-21-6 Ammonium Hydroxide.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

1336-21-6 Ammonium Hydroxide, ACS 1000.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 1%):

1336-21-6 Ammonium hydroxide.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).

NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

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Last updated: 06.17.2015