

MSDS# 00211

Section 1 - Chemical Product and Company Identification

MSDS

Name:

Ammonium hydroxide water solution, >= 14N NH4OH (>= 25% as ammonia, NH3)

Catalog
Numbers:

AC205840000, AC205840010, AC205840025, AC205840050, AC255210000, AC255210010
AC255210010, AC255210025, AC255210051, AC423300000, AC423300250, 42330-0025, 42330-
5000, A667-212, A667-212LC, A669-212, A669-212LC, A669-385LB, A669-500, A669-500LC,
A669-612GAL, A669C-212, A669C-212LC, A669J-500, A669S-212, A669S-212LC, A669S-500,
A669S212EA, NC9847335, SCH1143

Synonyms: Ammonium hydrate; Ammonia solution; Ammonia water; Aqueous ammonia; Aqua ammonia.

Company Identification:

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call:

201-796-7100

Emergency Number US:

201-796-7100

CHEMTREC Phone Number, US:

800-424-9300

Section 2 - Composition, Information on Ingredients

Risk Phrases:

CAS#: 7664-41-7

Chemical Name: Ammonia

%: >= 25

EINECS#: 231-635-3

Hazard Symbols:

Risk Phrases:

CAS#: 7732-18-5

Chemical Name: Water

%:

EINECS#: 231-791-2

Hazard Symbols:

Text for R-phrases: see Section 16

Hazard Symbols:



Risk Phrases:

C N



34 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Harmful if swallowed. May cause pulmonary edema. Causes burns by all exposure routes. Toxic if inhaled. Very toxic to aquatic organisms. Target Organs: Blood, kidneys, heart, central nervous system, liver, respiratory system, gastrointestinal system, eyes, skin.

Eye: Causes eye burns. Lachrymator (substance which increases the flow of tears).
 Skin: Causes skin burns. May be harmful if absorbed through the skin.
 Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. Causes throat constriction, vomiting, convulsions, and shock.
 Inhalation: Causes chemical burns to the respiratory tract. Toxic if inhaled. May produce cardiac failure and pulmonary edema. May cause central nervous system effects.
 Chronic: May cause liver and kidney damage. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Animal studies have reported the development of tumors.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
 Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
 Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.
 Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
 Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Ammonium hydroxide itself is non-combustible. However concentrated ammonia solutions may give off ammonia vapours. Ammonia gas is generally not considered a serious fire or explosion hazard because ammonia/air mixtures are difficult to ignite. A relatively high concentration of ammonia gas must be present in order for ignition to occur. However, a large and intense energy source may cause ignition and/or explosion in a confined space.
 Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.
 Autoignition Temperature: Not applicable.
 Flash Point: Not available
 Explosion Limits: Lower: Not available
 Explosion Limits: Upper: Not available
 NFPA Rating: health: 3; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
 Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Evacuate unnecessary personnel. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.
 Storage: Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Corrosives area.

Section 8 - Exposure Controls, Personal Protection

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Ammonium hydroxide	none listed	none listed	none listed
Ammonia	25 ppm; 35 ppm STEL	25 ppm TWA; 18 mg/m3 TWA 300 ppm IDLH	50 ppm TWA; 35 mg/m3 TWA
Water	none listed	none listed	none listed

OSHA Vacated PELs: Ammonium hydroxide: None listed Ammonia: None listed Water: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: strong odor - ammonia-like

pH: 13.6

Vapor Pressure: 557 mm Hg @ 21 deg C

Vapor Density: 0.59 (air=1)

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 27 deg C (80.60°F)

Freezing/Melting Point: -69 deg C (-92.20°F)

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 0.89

Molecular Formula: NH4OH

Molecular Weight: 35.04

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, excess heat, confined spaces.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, acrolein, halogens, mercury, hypochlorite, silver nitrate, acrylic acid, dimethyl sulfate, silver oxide.

Hazardous Decomposition Products: Nitrogen oxides (NOx) and ammonia (NH3).

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 1336-21-6: BQ9625000
CAS# 7664-41-7: BO0875000
CAS# 7732-18-5: ZC0110000

RTECS:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 1336-21-6: 2

CAS# 7664-41-7: 2

CAS# 7732-18-5: Not available

Canada

CAS# 1336-21-6 is listed on Canada's DSL List

CAS# 7664-41-7 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1B, E

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 1336-21-6 is listed on Canada's Ingredient Disclosure List

CAS# 7664-41-7 is listed on Canada's Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 1336-21-6 is listed on the TSCA Inventory.

CAS# 7664-41-7 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 6/22/1999

Revision #19 Date 7/20/2009

REVIEWED

DATE: APR 5/2012

Chatterford

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
