SDS

永华化学股份有限公司
YONGHUA CHEMICAL CO., LTD.

Ammonia solution 25-28%

1. Product Identification

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

CAS No.: 1336-21-6

Manufacturer/supplier:

Yonghua Chemical Co., Ltd.

Address: Xiangqiao Village, Zhitang(Heshi)Town, Changshu City 215500,

Jiangsu Province, China

Emergency phone：0086 512 52549653

Website：www.yonghuareagents.com

2. Composition/Information on Ingredients

CAS No.	Chemical Name	Content	EINECS#
1336-21-6	Ammonia	25-28	231-635-3
7732-18-5	Water	72-75	231-791-2

Hazard Symbols: C N

Risk Phrases: 34 50

3. Hazards Identification

EMERGENCY OVERVIEW

Causes burns. Very toxic to aquatic organisms.

Potential Health Effects

Eye:

Contact with liquid or vapor causes severe burns and possible irreversible eye damage. Lachrymator (substance which increases the flow of tears).

Skin:

Causes severe skin irritation. Causes skin burns. May cause deep, penetrating ulcers of the skin. Contact with the skin may cause staining, inflammation, and thickening of the skin.

Ingestion:

Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. Causes throat constriction, vomiting, convulsions, and shock.

Inhalation:

Effects may be delayed. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

Chronic:

Prolonged inhalation may cause respiratory tract inflammation and lung damage. Prolonged or repeated exposure may cause corneal damage and the development of cataracts and glaucoma.

4. First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Get medical aid immediately. Wash clothing before reuse.

Ingestion:

If swallowed, do NOT induce vomiting. Get medical aid immediately.

If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

After inhalation exposure, observe for 24 to 72 hours as pulmonary edema may be delayed.

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.

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. Neutralize spill with a weak acid such as vinegar or acetic acid. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Approach spill from upwind.

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7. Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Discard contaminated shoes. Do not breathe vapor. Use only with adequate ventilation.

Storage:

Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Isolate from oxidizing materials and acids. Walls, floors, shelving, fittings, lighting and ventilation systems in storage area should be made from carbon steel or stainless steel which do not react with ammonium hydroxide.

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8. Exposure Controls/Personal Protection

Engineering Controls:

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Exposure Limits CAS# 1336-21-6: CAS# 7664-41-7: United Kingdom, WEL - TWA: 25 ppm TWA (anhydrous); 18 mg/m3 TWA (anhydrous) United Kingdom, WEL - STEL: 35 ppm STEL (anhydrous); 25 mg/m3 STE (anhydrous) United States OSHA: 50 ppm TWA; 35 mg/m3 TWA Belgium - TWA: 20 ppm VLE; 14 mg/m3 VLE Belgium - STEL: 50 ppm VLE; 36 mg/m3 VLE France - VME: 25 ppm VME; 18 mg/m3 VME France - VLE: 50 ppm VLE; 36 mg/m3 VLE Germany: 50 ppm TWA; 35 mg/m3 TWA Japan: 25 ppm OEL; 17 mg/m3 OEL Malaysia: 25 ppm TWA; 17 mg/m3 TWA Netherlands: 50 ppm STEL; 36 mg/m3 STEL Netherlands: 20 ppm MAC; 14 mg/m3 MAC Russia: 20 mg/m3 TWA Spain: 20 ppm VLA-ED; 14 mg/m3 VLA-ED Spain: 50 ppm VLA-EC; 36 mg/m3 VLA-EC CAS# 7732-18-5: Personal Protective Equipment Eyes: Wear chemical splash goggles and face shield.

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.

9. Physical and Chemical Properties

Physical State: Liquid

Color: colorless

Odor: strong odor - ammonia-like

pH: 13.6

Vapor Pressure: 557 mm Hg @ 21 deg C

Viscosity: Not available.

Boiling Point: 27 deg C

Freezing/Melting Point: -69 deg C

Autoignition Temperature: 651 deg C (1,203.80 deg F)

Flash Point: Not available.

Explosion Limits, lower: 15%

Explosion Limits, upper: 28%

Decomposition Temperature: Not available.

Solubility in water: Soluble.

Specific Gravity/Density: 0.89

Molecular Formula: NH4OH

Molecular Weight: 35.04

10. Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures. Ammonium hydroxide is actually a solution of ammonia in water. Therefore the flammable properties of ammonia apply.

Conditions to Avoid:

High temperatures, confined spaces, Ammonia solutions are corrosive to copper, zinc, aluminum and their alloys..

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.

11. Toxicological Information

RTECS#:

CAS# 1336-21-6: BQ9625000 CAS# 7664-41-7: BO0875000 CAS# 7732-18-5: ZC0110000 LD50/LC50:

CAS# 1336-21-6: Draize test, rabbit, eye: 250 ug Severe; Draize test, rabbit, eye: 44 ug Severe; Oral, rat: LD50 = 350 mg/kg.

CAS# 7664-41-7: Inhalation, mouse: LC50 = 4230 ppm/1H; Inhalation, mouse: LC50 = 4600 mg/m3/2H; Inhalation, rabbit: LC50 = 7 gm/m3/1H; Inhalation, rat: LC50 = 2000 ppm/4H; Inhalation, rat: LC50 = 18600 mg/m3/5M; Inhalation, rat: LC50 = 7040 mg/m3/30M; Skin, rat: LD50 = 112000 mg/m3/15M; Skin, rat: LD50 = 71900 mg/m3/30M; Skin, rat: LD50 = 4840 mg/m3/60M.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Ammonium hydroxide - Not listed by ACGIH, IARC, or NTP.

Ammonia - Not listed by ACGIH, IARC, or NTP.

Water - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

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12. Ecological Information

Ecotoxicity:

Fish: Rainbow trout: LC50 = 0.008 mg/L; 24 Hr.; UnspecifiedFish: Fathead Minnow: LC50 = 8.2 mg/L; 96 Hr.; UnspecifiedFish: Bluegill/Sunfish: LC50 = 0.024-0.093 mg/L; 48 Hr.; UnspecifiedWater flea Daphnia: EC50 =0.66 mg/L; 48 Hr.; 22 degrees C

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13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

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14. Transport Information

IATA

Shipping Name: AMMONIA SOLUTION

Hazard Class: 8

UN Number: 2672

Packing Group: III

IMO

Shipping Name: AMMONIA SOLUTION

Hazard Class: 8

UN Number: 2672

Packing Group: III

RID/ADR

Shipping Name: AMMONIA SOLUTION

Hazard Class: 8

UN Number: 2672

Packing group: III

USA RQ: CAS# 1336-21-6: 1000 lb final RQ; 454 kg final RQ

USA RQ: CAS# 7664-41-7: 100 lb final RQ; 45.4 kg final RQ

15.Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C N

Risk Phrases:

R 34 Causes burns.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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: No information 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.

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.

16. Other Information

Yonghua Chemical Co., Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this

product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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