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Version 1

1. IDENTIFICATION**Product Name** AQUA AMMONIA, FG 19%**Other means of identification****Product Code** NF001800**UN/ID No.** UN2672**Synonyms** None**Manufacturer Address**

Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

Emergency telephone number

Chemtrec 1-800-424-9300

2. HAZARD(S) IDENTIFICATION**Signal Word:** Danger**GHS Classification:** Skin Corrosion/Irritation Category 1C
Serious Eye Damage/Eye Irritation Category 1
Acute Toxicity - Oral Category 4**Hazard Statements:** Harmful if swallowed.
Causes severe skin burns and eye damage.**Precautionary Statements:****Prevention:** Do not breathe dust, fume, gas, mist, vapors or spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear gloves, eye and face protection and protective clothing.**Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
Specific treatment (see First Aid on SDS or on this label).
Wash contaminated clothing before reuse.**Storage:** Store in a secure manner.**Disposal:** Dispose of in accordance with local, regional and international regulations.**Hazards Not Otherwise Classified:** None known.

AQUA AMMONIA FG, 19% NH3

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Percentage of Components with Unknown Acute Toxicity:

Dermal: 39.0 %
Inhalation Vapor: 39.0 %
Inhalation Dust/Mist: 39.0 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% by Wt.
Ammonium Hydroxide	1336-21-6	~ 39 %

Note: Contains 19% Ammonia (CAS# 7664-41-7).

4. FIRST-AID MEASURES

Eye Contact: If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention.

Skin Contact: If on skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not reuse clothing and shoes until cleaned.

Inhalation: If inhaled: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed: If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. After dilution with water, fruit juice or diluted vinegar may be administered to accomplish neutralization.

Note to Physicians:

The conventional symptoms of developing pulmonary edema should be observed regularly. Anyone exposed to ammonia who breathes in short, rapid shallow breaths should be immobilized. In most cases 24 hour bed rest, under the observation of a physician, will be necessary before it can be determined that the victim is out of danger. Anyone who accidentally has been exposed to high or unknown concentrations of ammonia and who has ammoniacal breath, tightness of the chest, bloodshot eyes with swollen lids, and a cough that may discharge bloody mucous is seriously ill. Medical assistance should be summoned immediately. SUCH A PERSON SHOULD BE IMMOBILIZED AT ONCE, eyes washed, and oxygen administered by a physician. Any sort of movement on the victim's part will aggravate the developing edema and may result in death.

Most Important Symptoms/Effects:

Eye Contact: CORROSIVE-Causes severe irritation and burns. Vapors may cause: burns. May cause: corneal damage. conjunctivitis. permanent eye damage. blindness.

Skin Contact: CORROSIVE-Causes severe irritation and burns. Concentrated ammonia may produce liquefaction necrosis and deep penetrating burns. Contact may cause: dermatitis (inflammation of the skin).

Skin Absorption: May be harmful if absorbed through skin.

Inhalation: CORROSIVE-Causes severe irritation and burns. May cause damage to the: mouth. throat. nose. lungs. respiratory tract. May cause: chest pain. coughing. asthma. pink frothy sputum. lung fibrosis. running nose. pulmonary edema. chemical pneumonitis. death. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May produce systemic effects similar to inhalation. May cause: headache. drowsiness. liver congestion. urinary retention. nausea. vomiting. coma. death. May cause swelling of the: lips. larynx. May cause damage to the: mouth. throat. esophagus.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Foam. Carbon dioxide. Dry chemical. Water spray.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. Run-off from fire control may cause pollution.

Fire and Explosion Hazards: Contact with strong oxidizing agents may cause an explosion. The presence of oil or other combustible materials will increase the fire hazard. The heat of a welding or cutting torch could cause an explosion. Ammonia will combine readily with either silver oxide or mercury to form explosive fulminating compounds. Contact with halogens and chlorates can cause explosions.

Hazardous Combustion Products: Nitrogen oxides. Ammonia.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Shut off source of leak if safe to do so. Keep upwind of leak or spill. Contain spill, place into drums for proper disposal. Flush remaining area with water to remove trace residue and dispose of properly. CAUTIOUSLY neutralize remaining residue with dilute acid such as Acetic, Hydrochloric or Sulfuric. Soak up residue with inert absorbent material. Place in non-leaking containers for immediate disposal. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. CORROSIVE MATERIAL. Avoid dust or mist formation.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Keep away from all sources of ignition. Store in suitable stainless steel or aluminum containers. Shelf life and stability is dependent upon storage temperature. Avoid copper bearing fittings on pipes, tanks, etc. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
No components found.	

ACGIH Exposure Guidelines:

<u>Component</u>	<u>Limits</u>
No components found.	

Note:

Exposure limits for Ammonia: 50 ppm-TWA (OSHA); 25 ppm-TWA, 35 ppm-STEL (ACGIH).

Engineering Controls: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face Protection: Wear chemical safety goggles while handling this product. Do not wear contact lenses. Wear additional eye protection such as a face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material.

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Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Impervious. Chemical-resistant.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. If exposure limits are exceeded, wear: NIOSH approved full facepiece respirator with: Ammonia cartridge. NIOSH/MSHA-Approved (or equivalent) full facepiece airline respirator in the positive pressure mode with emergency escape provisions. NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Full body suit. Protective clothing.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear. Colorless.

Odor: Pungent ammonia odor.

Odor Threshold: N.D.

pH: > 12.00 (as is)

Freezing Point (deg. F): ~-20

Melting Point (deg. F): ~-20

Initial Boiling Point or Boiling Range: ~ 125 °F

Flash Point: NONE.

Flash Point Method: N.A.

Evaporation Rate (nBuAc = 1): <1

Flammability (solid, gas): N.D.

Lower Explosion Limit: 16%

Upper Explosion Limit: 25%

Vapor Pressure (mm Hg): 227.9 @ 20 Deg. C

Vapor Density (air=1): 0.60 (NH3)

Specific Gravity or Relative Density: 0.929 @ 25 Deg. C

Solubility in Water: Complete

Partition Coefficient (n-octanol/water): N.D.

Autoignition Temperature: 1204 Deg. F. (651 Deg. C.)

Decomposition Temperature: N.D.

Viscosity: N.D.

% Volatile (wt%): N.D.

VOC (wt%): 0

VOC (lbs/gal): 0

Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions.

Conditions to Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid elevated temperatures.

Incompatible Materials: Acids. Strong oxidizing agents. Combustible materials. Halogens or halogen compounds. Oleum. Acrolein. Sodium hydroxide. Chlorates. Chromium trioxide. Ethylene oxide. Boron. Chlorites. Dimethyl trioxide. Phosphorous trioxide. Propylene oxide. Nitrogen tetroxide. Silver nitrate. Silver chloride.

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Potassium chlorate. Potassium ferricyanide. Dimethyl sulfate. Metals. Copper. Organic Acids. Gaseous or liquid ammonia will vigorously attack, copper, silver, zinc and their alloys. It will combine readily with either silver oxide or mercury to form explosive fulminating compounds. Avoid use of nonferrous metals. Galvanized surfaces. Forms explosive compounds with many heavy metals (gold, silver, mercury, etc.) and their salts, especially halide salts.

Hazardous Decomposition Products: Ammonia. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Component	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium Hydroxide	Rat: 350 mg/kg	No Data	No Data

Acute Toxicity Estimate (ATE):

Oral: 897 mg/kg

Routes of Exposure: Eyes. Ingestion. Inhalation. Skin.

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Skin Absorption: May be harmful if absorbed through skin.

Inhalation: CORROSIVE-Causes severe irritation and burns. May cause damage to the: mouth. throat. nose. lungs. respiratory tract. May cause: chest pain. coughing. asthma. pink frothy sputum. lung fibrosis. running nose. pulmonary edema. chemical pneumonitis. death. Effects may be delayed.

Ingestion: CORROSIVE-Causes severe irritation and burns. May produce systemic effects similar to inhalation. May cause: headache. drowsiness. liver congestion. urinary retention. nausea. vomiting. coma. death. May cause swelling of the: lips. larynx. May cause damage to the: mouth. throat. esophagus.

Medical Conditions Aggravated by Exposure to Product: Eye disorders. Liver disorders. Lung disorders. Respiratory system disorders. Skin disorders. Allergies.

Other: Exposure to atmospheric concentrations of ammonia above 5000 ppm in air will produce death by suffocation within minutes. Atmospheric ammonia in concentrations above 2000 ppm will burn and blister the skin after a few seconds of exposure. Excess ammonia in the body is detoxified in the liver by conversion to urea. Those with a history of reduced liver function should avoid exposure to ammonia. Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the kidney, eye, respiratory, cardiovascular and nervous systems.

Cancer Information:

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: This material is expected to be very toxic to aquatic life. The 96 hour LC50 values for fish are less than 1 mg/L. The 48 hour EC50 values for daphnia are less than 1 mg/L.

Chemical Fate Information: This material is not expected to significantly bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D002

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Identification Number: UN2672
Proper Shipping Name: Ammonia Solution
Hazard Class: 8
Packing Group: III
Label Required: CORROSIVE
Reportable Quantity (RQ): 100# (Ammonia); 1000# (Ammonium Hydroxide)

15. REGULATORY INFORMATION

TSCA Inventory Status: This product or all components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

SARA Title III Section 311/312 Category Hazards:

<u>Immediate (Acute)</u> Yes	<u>Delayed (Chronic)</u> Yes	<u>Fire Hazard</u> Yes	<u>Pressure Release</u> No			<u>Reactive</u> No	
<u>Component</u>	<u>CAS</u> <u>Number</u>	<u>CERCLA</u> <u>RQ</u>	<u>SARA</u> <u>EHS</u>	<u>SARA</u> <u>313</u>	<u>U.S.</u> <u>HAP</u>	<u>WI</u> <u>HAP</u>	<u>Prop</u> <u>65</u>
Ammonium Hydroxide	1336-21-6	Yes	No	Yes	No	No	No

***Prop 65 - May Contain the Following Trace Components:**

No data available.

Note: * Section 313 threshold and release determinations are based on 10% of the total aqueous ammonia manufactured, processed or otherwise used. This product contains Ammonia (CAS# 7664-41-7) which is subject to 313 reporting requirements. If ammonia is released to the environment, it is subject to EPCRA 302 and 304 reporting requirements: CERCLA RQ of 100 pounds, SARA RQ of 100 pounds, and TPQ of 500 pounds. Ammonia is not an EPA HAP.

16. OTHER INFORMATION

Hazard Rating System

Health: 3*
Flammability: 1
Reactivity: 0

* = Chronic Health Hazard

NFPA Rating System

Health: 3
Flammability: 1
Reactivity: 0
Special Hazard: None

MSDS Abbreviations

N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

MSDS Prepared by: NAO

Reason for Revision: New format. Changes made throughout the SDS.

Revised: 06-23-2014

Replaces: 04-07-2014

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The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which ANDERSON CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.