

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 58.05

Revision Date: May 11, 2010

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Ammonium Hydroxide Solution

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

### SECTION 2 — COMPOSITION, INFORMATION ON INGREDIENTS

Ammonium hydroxide (1336-21-6) <11%, water (7732-18-5) >89%.

Synonym: 3M or less ammonium hydroxide.

CAS#: None established

### SECTION 3 — HAZARDS IDENTIFICATION

Clear liquid with a strong ammonia odor.

Liquid and vapor are very irritating to skin, eyes, and mucous membranes. Vapor extremely irritating to eyes. May cause blindness. Moderately toxic by ingestion or inhalation.

#### FLINN AT-A-GLANCE

Health-2

Flammability-0

Reactivity-1

Exposure-2

Storage-3

0 is low hazard, 3 is high hazard

### SECTION 4 — FIRST AID MEASURES

Call a physician and seek medical attention for further treatment, observation, and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped, give artificial respiration immediately.

Eye: Immediately flush with fresh water for at least 15 minutes.

External: Wash continuously with fresh water for at least 15 minutes.

Internal: Give no more than 1-2 cups of water for dilution. Do not induce vomiting. Call a physician or poison control at once.

### SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable liquid.

When heated to decomposition, emits toxic fumes of NH<sub>3</sub> and NO<sub>x</sub>.

**Fire Fighting Instructions:** Use a triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

#### NFPA CODE

None

established

### SECTION 6 — ACCIDENTAL RELEASE MEASURES

Restrict unprotected personnel from the area and ventilate area. Contain the spill with sand or absorbent material and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

### SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store in a dedicated base cabinet. If a cabinet is not available, store in a Flinn Saf-Cube. Use and dispense in a hood.

### SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive-pressure, air-supplied respirator when handling this material in emergency situations (spill or fire). Exposure guidelines: TWA 25 ppm, STEL 35 ppm.

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

Solution of ammonia in water, 3M or less.

Formula:  $\text{NH}_4\text{OH}$

Formula Weight: 35.05

**SECTION 10 — STABILITY AND REACTIVITY**

Avoid contact with acids, copper, galvanized iron, and aluminum.

When heated to decomposition, emits toxic fumes of  $\text{NO}_x$  and  $\text{NH}_3$ .

Shelf life: Indefinite, if stored safely.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

Acute effects: Toxic, corrosive, lachrymator

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT  $\text{LD}_{50}$ : 350 mg/kg as ammonium hydroxide

IHL-RAT  $\text{LC}_{50}$ : N.A.

SKN-RBT  $\text{LD}_{50}$ : N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

**SECTION 12 — ECOLOGICAL INFORMATION**

Data not yet available.

**SECTION 13 — DISPOSAL CONSIDERATIONS**

Please consult with state and local regulations.

Flinn Suggested Disposal Method #10 is one option.

**SECTION 14 — TRANSPORT INFORMATION**

Shipping Name: Not Regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

**SECTION 15 — REGULATORY INFORMATION**

TSCA-listed, EINECS-listed (215-647-6), RCRA code D002.

**SECTION 16 — OTHER INFORMATION**

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**Consult your copy of the *Flinn Science Catalog/Reference Manual*  
for additional information about laboratory chemicals.**