

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 552.20

Revision Date: November 24, 2010

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Nitric Acid Solution (1 M - 3 M)

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

Nitric Acid (7697-37-2) 6-18%, and Water (7732-18-5) 82-94%.

Synonym: 1 thru 3 Molar

CAS#: None established

### SECTION 3 — HAZARDS IDENTIFICATION

Clear, colorless to yellow acidic aqueous solution. Characteristic acrid odor.

Corrosive; will cause damage to eyes, skin and mucous membranes. Slightly toxic by ingestion and inhalation. Avoid all body tissue contact. Strong oxidizer.

Avoid contact with acetic acid and readily oxidized substances.

#### FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-1

Exposure-2

Storage-2

0 is low hazard, 3 is high hazard

### SECTION 4 — FIRST AID MEASURES

Call a physician, 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: Do NOT induce vomiting. Rinse mouth. Give large quantities of water for dilution. Call a physician or poison control at once.

### SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable liquid.

Strong oxidizer. Dangerous fire risk in contact with acetic acid, combustible or organic materials.

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

**Fire Fighting Instructions:** Use 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 area. Ventilate area and contain spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

### SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates and nitrites.

Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube.

Never store with acetic acid. Use in a well-ventilated lab.

### 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: PEL 2 ppm, STEL 4 ppm (as  $\text{HNO}_3$ ) (OSHA, NIOSH)

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Transparent, colorless or yellow corrosive liquid with an acrid odor. Specific gravity: 1.03 (2 M)  
Solubility: Miscible with water. Hygroscopic. pH <1  
Formula: HNO<sub>3</sub>  
Formula Weight: 63.01

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**SECTION 10 — STABILITY AND REACTIVITY**

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Avoid contact with bases, reducers, alcohols, alkali and alkaline earth metals, brass, copper, copper alloys, galvanized iron, aluminum, organic materials, amines, and acetic acid. Corrodes steel and other metals.  
Shelf life: Good.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Corrosive	ORL-HUMAN LD <sub>50</sub> : (Concentrated): 430 mg/kg.
Chronic effects: N.A.	IHL-RAT LC <sub>50</sub> : (Concentrated): 244 ppm/0.5hr.
Target organs: Lungs, teeth, cardiovascular system.	SKN-RBT LD <sub>50</sub> : N.A.

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

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**SECTION 12 — ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 — DISPOSAL CONSIDERATIONS**

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Please consult with state and local regulations.  
Flinn Suggested Disposal Method #24b is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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Shipping Name: Nitric acid  
Hazard Class: 8, Corrosive  
UN Number: UN2031  
N/A = Not applicable

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**SECTION 15 — REGULATORY INFORMATION**

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Not listed.

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**SECTION 16 — OTHER INFORMATION**

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