

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 552.00

Revision Date: February 24, 2012

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Nitric Acid, 40 - 70%

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) 40-70% and Water (7732-18-5) 30-60%.

Concentration: 15.8 M, 70%

CAS#: None established

### SECTION 3 — HAZARDS IDENTIFICATION

Clear, colorless or yellow fuming liquid. Acrid odor.

Yellow color (if present) results from exposure to light and release of nitrogen dioxide.

Severely corrosive; will cause severe damage to eyes, skin, teeth, and mucous membranes.

Highly 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-3

Flammability-0

Reactivity-3

Exposure-3

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

Internal: 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 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

H-3

F-0

R-0

OX

### SECTION 6 — ACCIDENTAL RELEASE MEASURES

Restrict unprotected personnel from the area. Remove all ignition sources and ventilate area. Contain the spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide, 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 #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 a Flinn Saf-Cube.

Never store with acetic acid. 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 a 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 HNO<sub>3</sub>) (OSHA, NIOSH)

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

Transparent, colorless or yellow, fuming liquid with a suffocating, acrid odor.

Solubility: Miscible with water. Hygroscopic.

Formula: HNO<sub>3</sub>

Formula weight: 63.01

Boiling point: 121 °C (Nitric Acid, 70%, 15.8M)

pH: <1

Specific gravity: 1.42 (Nitric Acid, 70%, 15.8M)

**SECTION 10 — STABILITY AND REACTIVITY**

Avoid contact with bases, alcohols, alkali and other earth metals, galvanized iron, aluminum, hydrogen peroxide, organic materials, amines, acetic acid, and other readily oxidized substances. Corrodes steel and other metals. Produces heat when diluted with water.

Shelf life: Fair, product may turn yellow due to exposure to light.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

Acute effects: Poison, corrosive.

Chronic effects: N.A.

Target organs: Lungs, teeth, cardiovascular system.

ORL-HUMAN LDL<sub>0</sub>: (Concentrated): 430 mg/kg.

IHL-RAT LC<sub>50</sub>: (Concentrated): 244 ppm/0.5hr.

SKN-RBT LD<sub>50</sub>: N.A.

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

**SECTION 12 — ECOLOGICAL INFORMATION**

May be harmful to aquatic organisms.

**SECTION 13 — DISPOSAL CONSIDERATIONS**

Please review all federal, state and local regulations that may apply, before proceeding.

Flinn Suggested Disposal Method #24b is one option.

**SECTION 14 — TRANSPORT INFORMATION**

Shipping name: Nitric acid

Hazard class: 8, Corrosive

UN number: UN2031

N/A = Not applicable

**SECTION 15 — REGULATORY INFORMATION**

TSCA-listed, EINECS-listed (231-714-2), RCRA code D001, D002, D003.

**SECTION 16 — OTHER INFORMATION**

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