

FLINN SCIENTIFIC, INC.

Material Safety Data Sheet (MSDS)

MSDS #: 552.20

Revision Date: October 21, 2011

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Nitric Acid Solution, 1M - 3M

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 acid 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 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_x.

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. Ventilate area and 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 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 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 HNO₃) (OSHA, NIOSH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Transparent, colorless or yellow corrosive liquid with an acrid odor. pH <1
Solubility: Miscible with water. Hygroscopic. Specific gravity: 1.03 (2 M)
Formula: HNO₃
Formula weight: 63.01

SECTION 10 — STABILITY AND REACTIVITY

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, if stored properly

SECTION 11 — TOXICOLOGICAL INFORMATION

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

Not listed.

SECTION 16 — OTHER INFORMATION

This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

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