

# Material Safety Data Sheet

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**MSDS # 1026**  
**Date 08/13/08**

Supersedes  
MSDS # 1026 01/31/05

## SECTION I - PRODUCT IDENTIFICATION

**Trade Name:** Mixed Acid

**Product Class:** Nitrating Acid

**Product Appearance & Odor:** Colorless to light yellow, cloudy liquid. Acrid odor.

**DOT Hazard Shipping Description:** If > 50% Nitric Acid: UN1796 Nitrating Acid Mixtures 8 I RQ\*  
≤ 50% or less Nitric Acid: UN1796 Nitrating Acid Mixtures 8 II RQ\*

\* "RQ" required if container (drum, rail tank car, etc.) has more than 1,000 pounds of either nitric acid or sulfuric acid.

**NFPA Hazard Classification:** Health (blue) = 3  
Flammability (Red) = 0  
Reactivity (Yellow) = 2  
Special Hazard (White) = No Water

## SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	Occupational Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL-TWA
Nitric Acid	7697-37-2	25-75	5 mg/m <sup>3</sup> 10 mg/m <sup>3</sup> (STEL)	5 mg/m <sup>3</sup>
Sulfuric Acid	7664-93-9	25-80	1 mg/m <sup>3</sup> 3 mg/m <sup>3</sup> (STEL)	1 mg/m <sup>3</sup>

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

## SECTION III - PHYSICAL DATA

**Boiling Point:** 180 - 270°F  
**Vapor Density:** (Air=1) 2.5 - 3.0  
**Percent Volatile by Volume:** Not Available  
**Evaporation Rate (Butyl Acetate = 1):** <1

**Vapor Pressure:** Not Available  
**Density:** 1.55 - 1.85 g/cc  
**Solubility in Water:** Completely soluble.

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## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

**Flash Point:** Not Applicable

**Flammable Limits:** Not Applicable

**Extinguishing Media:** Use water spray or other suitable agent for fires adjacent to leaking tanks or other containers.

**Special Fire Fighting Procedures:** Use water spray to cool non-leaking fire-exposed containers and to reduce and knock down vapors. **Do not** use solid water streams near ruptured tanks or spills of sulfuric acid. Acid reacts violently with water and can splatter acid on personnel. Apply water from as far away as possible and avoid directing water into the acid. Neutralize small amounts of spilled acid with crushed limestone, soda ash or lime. Wear self-contained breathing apparatus and full fire fighting protective gear.

**Unusual Fire and Explosion Hazards:** Will emit oxides of nitrogen and sulfur upon heating. Strong oxidizer. May cause spontaneous combustion when in contact with organic or combustible materials. Reacts vigorously with water to liberate heat, oxides of nitrogen and sulfur and acid fumes.

## SECTION V - HEALTH HAZARD DATA

### Effects of Overexposure

**Eyes:** Will produce severe, immediate damage and may result in permanent damage or loss.

**Skin:** Will produce immediate, penetrating chemical burns, with a characteristic yellow coloration. Severe and fatal skin burns can occur with necrosis and scarring.

**Ingestion:** Will cause immediate irritation, chemical burns to mouth and throat, and may cause hemorrhaging, necrosis and perforation of the gastrointestinal tract. Based on toxicity data for other acids, not expected to be toxic by oral exposure as defined by OSHA.

**Inhalation:** Highly toxic by inhalation as defined by OSHA. Mild exposure may cause irritation and burning of the nose and throat. Extreme inhalation may cause difficult breathing, loss of consciousness, pulmonary edema or death. Lung damage may appear after a delay of up to 48 hours after exposure.

### Emergency and First Aid Procedures

**Eyes:** Irrigate with running water for at least fifteen minutes. Seek immediate medical attention.

**Skin:** Immediately remove contaminated clothing. Flush with running stream of water for at least fifteen minutes. Wash with soap. Seek medical attention.

**Ingestion:** Do not induce vomiting. Drink three or more glasses of water or milk to dilute acid. Seek immediate medical attention.

**Inhalation:** Remove from exposure immediately. Restore or support respiration. Seek immediate medical attention for unprotected exposures beyond exposure limits.

**Special Considerations:** If exposure to acid vapors occurs, medical observation should continue for 24-48 hours after exposure. Delayed reactions may cause pulmonary edema.

## SECTION VI - REACTIVITY DATA

**Stability:** Stable under normal conditions.

**Conditions to Avoid:** Avoid exposure to heat or sunlight, which promotes oxide formation.

**Materials to Avoid (Incompatibility):** Bases. Organic and combustible materials. Will corrode most metals. Beware of containers, pumps and hoses of inadequate construction and/or contamination by incompatible chemicals.

**Hazardous Decomposition Products:** Nitrogen oxides (NO<sub>x</sub>) and sulfur oxides (SO<sub>x</sub>)

**Hazardous Polymerization:** Will not occur.

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## SECTION VII - SPILL OR LEAK PROCEDURES

**Steps to be taken in Case Material is Released or Spilled:** Evacuate unnecessary personnel to safe area upwind of spill. Acid vapor is denser than air and will concentrate in low spots. If necessary to enter spill area, wear full protective clothing including boots and proper breathing apparatus. Dike large spills and pump to salvage. If not possible to salvage, neutralize with soda ash or lime. If possible, carefully dilute acid or neutralizing material with water to slow down extremely vigorous neutralization reactions. Water spray can be used to reduce and knock down the vapors. Apply water from as far away as possible and avoid directing it into the acid. Do not get water in salvage containers since a violent reaction may occur. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. Follow Federal, State and local spill reporting requirements.

**Waste Disposal Method:** Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any hazardous material.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**Ventilation:** Mechanical ventilation and/or local exhaust is indicated where needed to meet TLV requirement.

**Respiratory Protection:** For concentrations above the exposure limits, use full face supplied air respirator approved by NIOSH for nitric acid, nitrogen oxide gases or mists, sulfuric acid, and sulfur oxides. **Chemical cartridge or canister respirators are not suitable for nitric acid or nitrogen oxide use.**

**Protective Clothing:** Neoprene or vinyl gloves should be required. Where spill or splash potential exists, rubberized aprons or chemical resistant suits are strongly recommended.

**Eye Protection:** Acid proof goggles and face shield should be required where acid is transferred, sampled, or where persons are otherwise potentially exposed. Eye baths should be provided when direct contact is possible.

**Other Precautions Required:** Provide safety showers and eyewashes in immediate vicinity.

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storage:** Store in clean, cool, well-ventilated area away from organic chemicals, bases and metal powders.

**Other Precautions:** Avoid hydrocarbon lubricants and packing materials. Wood structures or other organic material should be avoided within diked area or near mixed acid storage tanks. Corrosion rates are increased at elevated temperatures and by dilution with water. Refer to CMA Data Sheet SD-65 for additional information.

## SECTION X - SPECIAL INFORMATION

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% By Weight</u>
Nitric Acid	7697-37-2	25-75

Moderately toxic to aquatic organisms based on algae data and on fish data for other acids as defined by USEPA.

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