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: Nitrating Acid Mixtures 8 UN1796 I RQ*
< 50% or less Nitric Acid: Nitrating Acid Mixtures 8 UN1796 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

SECTION II - HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS#</th>
<th>% (Range)</th>
<th>TLV-ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid</td>
<td>7697-37-2</td>
<td>25-75</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Sulfuric Acid</td>
<td>7664-93-9</td>
<td>25-80</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations.

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.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Flammable Limits: Not Applicable

Extinguishing Media: Not Applicable

Special Fire Fighting Procedures: Soak with water. Use water spray to cool containers and reduce and knock down vapors. 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 very severe, immediate damage and may result in permanent damage.

Skin: Will produce immediate, penetrating chemical burns.

Ingestion: Will cause chemical burns to digestive 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. Will cause burning of the eyes, nose and throat. Extreme inhalation may cause difficult breathing and loss of consciousness. Lung damage may appear after a delay of up to 48 hours after exposure.

Systemic or Other Effects: None known.

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 medical attention.

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\textsubscript{x}) and sulfur oxides (SO\textsubscript{x})

Hazardous Polymerization: Will not occur.
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: Not required for normal operations. For abnormal conditions, such as a spill, self-contained breathing apparatus is recommended. Acid gas respirators are suggested when acid is transferred or sampled.

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>% By Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric Acid</td>
<td>7697-37-2</td>
<td>25-75</td>
</tr>
</tbody>
</table>

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

DYNO NOBEL INC. Disclaimer
The information contained herein is provided for reference purposes only and is intended only for persons having relevant technical skills. Because conditions and manner of use are outside of our control, the user is responsible for determining the conditions of safe use of the product. While the information is believed to be correct, DYNO NOBEL INC. shall in no event be responsible for any damages whatsoever, directly or indirectly, resulting from the publication or use of or reliance upon the information contained herein. (No warranty, either expressed or implied, of merchantability or fitness for a particular purpose, or of any nature with respect to the product, or to the information, is made herein.)