

Safety Data Sheet

SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

Dyno Nobel Inc.

2795 East Cottonwood Parkway, Suite 500

Salt Lake City, Utah 84121

Phone: 801-364-4800 Fax 801-321-6703

E-Mail: dнна.hse@am.dynonobel.com www.dynonobel.com

SDS #: 1026

Date: 11/01/2018

Supercedes: 03/05/2015

Product Identifier

Product Form: Mixture

Product Name: Mixed Acid

Other Means of Identification

Product Class: Nitrating Acid

Intended Use of the Product

Industrial applications

Emergency Telephone Number

FOR 24 HOUR **EMERGENCY**, CALL CHEMTREC (USA) 800-424-9300

CANUTEC (CANADA) 613-996-6666

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Ox. Liq. 3 H272

Met. Corr. 1 H290

Skin Corr. 1A H314

Eye Dam. 1 H318

Aquatic Acute 3 H402

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H272 - May intensify fire; oxidizer
H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H402 - Harmful to aquatic life

Precautionary Statements (GHS-US)

: P210 - Keep away from open flames, heat, sparks, hot surfaces. - No smoking.
P220 - Keep/Store away from combustible materials.
P221 - Take any precaution to avoid mixing with combustible materials.
P234 - Keep only in original container.
P260 - Do not breathe mist, spray, vapors.
P264 - Wash hands, forearms and exposed areas thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective clothing, protective gloves, face shield.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Safety Data Sheet

P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see Section 4).
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use appropriate media to extinguish.
P390 - Absorb spillage to prevent material damage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Hazards Not Otherwise Classified (HNOC): When diluting, always add acid to water and not water to acid. Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

| Name | Product identifier | % (w/w) | Ingredient Classification (GHS-US) |
|---------------|--------------------|----------------------------------|--|
| Sulfuric acid | (CAS No) 7664-93-9 | 15 - 40, 40 - 70, 60 - 100 | Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402 |
| Nitric acid | (CAS No) 7697-37-2 | 15 - 40, 40 - 70, 60 - 100 | Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 |

Multiple WHMIS ranges have been utilized due to varying composition.

Full text of H-phrases: see section 16

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes severe skin burns and eye damage. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Skin Contact: Causes serious burns.

Eye Contact: Causes serious eye damage.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

Safety Data Sheet

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable but will support combustion. May intensify fire; oxidizer.

Explosion Hazard: Risk of explosion in contact with reducing agents.

Reactivity: Contact with metals may evolve flammable hydrogen gas. Violent exothermic reaction with water (moisture): release of corrosive gases/vapors.

Reference to Other Sections: Refer to section 9 for flammability properties.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing vapor, mist, or spray. Gas/vapor is heavier than air. May accumulate in confined spaces, particularly at or below ground level.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as saw dust or cellulosic material.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Cautiously neutralize spilled liquid.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and forearms thoroughly after handling. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep container closed when not in use. Keep in fireproof place.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Special Rules on Packaging: Store in original container or corrosive resistant and/or lined container.

Specific End Use(s)

Industrial applications

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Nitric acid (7697-37-2)

Mexico

OEL TWA (mg/m³)

5 mg/m³

Safety Data Sheet

| | | |
|-------------------------|---------------------------------------|-----------------------|
| Mexico | OEL TWA (ppm) | 2 ppm |
| Mexico | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Mexico | OEL STEL (ppm) | 4 ppm |
| USA ACGIH | ACGIH TWA (ppm) | 2 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 4 ppm |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 2 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 5 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 2 ppm |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³) | 10 mg/m ³ |
| USA NIOSH | NIOSH REL (STEL) (ppm) | 4 ppm |
| USA IDLH | US IDLH (ppm) | 25 ppm |
| Alberta | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Alberta | OEL STEL (ppm) | 4 ppm |
| Alberta | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Alberta | OEL TWA (ppm) | 2 ppm |
| British Columbia | OEL STEL (ppm) | 4 ppm |
| British Columbia | OEL TWA (ppm) | 2 ppm |
| Manitoba | OEL STEL (ppm) | 4 ppm |
| Manitoba | OEL TWA (ppm) | 2 ppm |
| New Brunswick | OEL STEL (mg/m ³) | 10 mg/m ³ |
| New Brunswick | OEL STEL (ppm) | 4 ppm |
| New Brunswick | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| New Brunswick | OEL TWA (ppm) | 2 ppm |
| Newfoundland & Labrador | OEL STEL (ppm) | 4 ppm |
| Newfoundland & Labrador | OEL TWA (ppm) | 2 ppm |
| Nova Scotia | OEL STEL (ppm) | 4 ppm |
| Nova Scotia | OEL TWA (ppm) | 2 ppm |
| Nunavut | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Nunavut | OEL STEL (ppm) | 4 ppm |
| Nunavut | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Nunavut | OEL TWA (ppm) | 2 ppm |
| Northwest Territories | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Northwest Territories | OEL STEL (ppm) | 4 ppm |
| Northwest Territories | OEL TWA (mg/m ³) | 5.2 mg/m ³ |
| Northwest Territories | OEL TWA (ppm) | 2 ppm |
| Ontario | OEL STEL (ppm) | 4 ppm |
| Ontario | OEL TWA (ppm) | 2 ppm |
| Prince Edward Island | OEL STEL (ppm) | 4 ppm |
| Prince Edward Island | OEL TWA (ppm) | 2 ppm |
| Québec | VECD (mg/m ³) | 10 mg/m ³ |
| Québec | VECD (ppm) | 4 ppm |
| Québec | VEMP (mg/m ³) | 5.2 mg/m ³ |
| Québec | VEMP (ppm) | 2 ppm |
| Saskatchewan | OEL STEL (ppm) | 4 ppm |
| Saskatchewan | OEL TWA (ppm) | 2 ppm |
| Yukon | OEL STEL (mg/m ³) | 10 mg/m ³ |
| Yukon | OEL STEL (ppm) | 4 ppm |

Safety Data Sheet

| | | |
|----------------------------------|--------------------------------------|--|
| Yukon | OEL TWA (mg/m ³) | 5 mg/m ³ |
| Yukon | OEL TWA (ppm) | 2 ppm |
| Sulfuric acid (7664-93-9) | | |
| Mexico | OEL TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.2 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 15 mg/m ³ |
| Alberta | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 1 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.2 mg/m ³ (Thoracic, contained in strong inorganic acid mists) |
| Manitoba | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| New Brunswick | OEL STEL (mg/m ³) | 3 mg/m ³ |
| New Brunswick | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Newfoundland & Labrador | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Nova Scotia | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Nunavut | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Nunavut | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Northwest Territories | OEL STEL (mg/m ³) | 3 mg/m ³ |
| Northwest Territories | OEL TWA (mg/m ³) | 1 mg/m ³ |
| Ontario | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Prince Edward Island | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Québec | VECD (mg/m ³) | 3 mg/m ³ |
| Québec | VEMP (mg/m ³) | 1 mg/m ³ |
| Saskatchewan | OEL STEL (mg/m ³) | 0.6 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.2 mg/m ³ |
| Yukon | OEL STEL (mg/m ³) | 1 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 1 mg/m ³ |

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective goggles. Face shield. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Corrosion-proof clothing.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or face shield.

Skin and Body Protection: Rubber apron, boots.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Do not allow the product to be released into the environment.

Consumer Exposure Controls: Do not eat, drink or smoke during use

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

Information on Basic Physical and Chemical Properties

| | |
|---|---|
| Physical State | : Liquid |
| Appearance | : Colorless to light yellow, cloudy liquid |
| Odor | : Acrid odor |
| Odor Threshold | : Not available |
| pH | : Not available |
| Relative Evaporation Rate (butylacetate=1) | : < 1 |
| Melting Point | : Not available |
| Freezing Point | : Not available |
| Boiling Point | : 82 - 132 °C (180 - 270 °F) |
| Flash Point | : Not available |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower Flammable Limit | : Not available |
| Upper Flammable Limit | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : 2.5 - 3 (Air=1) |
| Relative Density | : Not available |
| Density | : 1.55 - 1.85 g/cc |
| Specific Gravity | : Not available |
| Solubility | : Complete in water |
| Partition coefficient: n-octanol/water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact. |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge. |

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Contact with metals may evolve flammable hydrogen gas. Violent exothermic reaction with water (moisture): release of corrosive gases/vapors.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Metals. Organic materials. Chlorides.

Hazardous Decomposition Products: Nitrogen oxides. Sulfur oxides. Thermal decomposition generates corrosive vapors.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Safety Data Sheet

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns.

Symptoms/Injuries After Skin Contact: Causes serious burns.

Symptoms/Injuries After Eye Contact: Causes serious eye damage.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

Information on Toxicological Effects - Ingredient(s)

Sulfuric acid (7664-93-9)

LD50 Oral Rat

2140 mg/kg

LC50 Inhalation Rat

510 mg/m³ (Exposure time: 2 h)

Sulfuric acid (7664-93-9)

IARC Group

1

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Ecology - Water: Harmful to aquatic life.

Sulfuric acid (7664-93-9)

LC50 Fish 1

500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

LC 50 Fish 2

42 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static])

Persistence and Degradability Not available

Bioaccumulative Potential

Nitric acid (7697-37-2)

Log Pow

-2.3 (at 25 °C)

Sulfuric acid (7664-93-9)

BCF fish 1

(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14 - TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : NITRATING ACID MIXTURES with more than 50 percent nitric acid

Hazard Class : 8

Identification Number : UN1796

Label Codes : 8,5.1

Packing Group : I







ERG Number : 157

14.2 In Accordance with IMDG

Proper Shipping Name : NITRATING ACID MIXTURE



Safety Data Sheet

| | | | |
|-------------------------------------|---|--|---|
| Hazard Class | : 8 |  |  |
| Identification Number | : UN1796 | | |
| Packing Group | : I | | |
| Label Codes | : 8,5.1 | | |
| EmS-No. (Fire) | : F-A | | |
| EmS-No. (Spillage) | : S-Q | | |
| 14.3 In Accordance with IATA | | | |
| Proper Shipping Name | : NITRATING ACID MIXTURE |  |  |
| Packing Group | : I | | |
| Identification Number | : UN1796 | | |
| Hazard Class | : 8 | | |
| Label Codes | : 8,5.1 | | |
| ERG Code (IATA) | : 8X | | |
| 14.4 In Accordance with TDG | | | |
| Proper Shipping Name | : NITRATING ACID MIXTURE with more than 50 per cent nitric acid |  |  |
| Packing Group | : I | | |
| Hazard Class | : 8 | | |
| Identification Number | : UN1796 | | |
| Label Codes | : 8,5.1 | | |

| SECTION 15 - REGULATORY INFORMATION | |
|---|--|
| US Federal Regulations | |
| 1026 Mixed Acid | |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Fire hazard |
| Nitric acid (7697-37-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on SARA Section 302 (Specific toxic chemical listings) | |
| Listed on SARA Section 313 (Specific toxic chemical listings) | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 1000 |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Sulfuric acid (7664-93-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on SARA Section 302 (Specific toxic chemical listings) | |
| Listed on SARA Section 313 (Specific toxic chemical listings) | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 1000 |
| SARA Section 313 - Emission Reporting | 1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size) |
| US State Regulations | |
| Sulfuric acid (7664-93-9) | |
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |
| Nitric acid (7697-37-2) | |
| U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute | |
| U.S. - California - SCAQMD - Toxic Air Contaminants With Proposed Risk Values | |
| U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728) | |
| U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min) | |
| U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr) | |

Safety Data Sheet

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40

Safety Data Sheet

Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

Sulfuric acid (7664-93-9)

Strong inorganic acid mists containing sulfuric acid are present on the State of California list of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity (Cal Prop 65).
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual

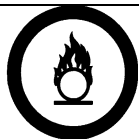
Safety Data Sheet

U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
 U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
 U.S. - Tennessee - Occupational Exposure Limits - TWAs
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term
 U.S. - Vermont - Permissible Exposure Limits - TWAs
 U.S. - Washington - Permissible Exposure Limits - STELs
 U.S. - Washington - Permissible Exposure Limits - TWAs
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
 U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Canadian Regulations

1026 Mixed Acid

| | |
|----------------------|--|
| WHMIS Classification | Class C - Oxidizing Material Class E - Corrosive Material |
|----------------------|--|



Nitric acid (7697-37-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.
 Listed on the Canadian Ingredient Disclosure List

| | |
|----------------------|--|
| WHMIS Classification | Class C - Oxidizing Material Class E - Corrosive Material |
|----------------------|--|

Sulfuric acid (7664-93-9)

Listed on the Canadian DSL (Domestic Substances List) inventory.
 Listed on the Canadian Ingredient Disclosure List

| | |
|----------------------|------------------------------|
| WHMIS Classification | Class E - Corrosive Material |
|----------------------|------------------------------|

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

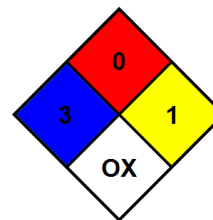
Revision date : 11/01/2018
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

| | |
|-----------------|--|
| Aquatic Acute 3 | Hazardous to the aquatic environment - Acute Hazard Category 3 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Met. Corr. 1 | Corrosive to metals Category 1 |
| Ox. Liq. 3 | Oxidizing liquids Category 3 |
| Skin Corr. 1A | Skin corrosion/irritation Category 1A |
| H272 | May intensify fire; oxidizer |
| H290 | May be corrosive to metals |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H402 | Harmful to aquatic life |

Safety Data Sheet

- NFPA Health Hazard** : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA Fire Hazard** : 0 - Materials that will not burn.
- NFPA Reactivity** : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.
- NFPA Specific Hazard** : OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.



Party Responsible for the Preparation of This Document

Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800

Disclaimer

Dyno Nobel Inc. and its subsidiaries disclaim any warranties with respect to this product, the safety or suitability thereof, the information contained herein, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. 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. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product or information. Under no circumstances shall either Dyno Nobel Inc. or any of its subsidiaries be liable for special, consequential or incidental damages or for anticipated loss of profits.

Dyno Nobel SDS