

Nitric Acid 50 – 70%

SDS: P-21 Version: 1

Safety Data Sheet

Revision Date: 07/22/2019



SECTION 1: IDENTIFICATION

Product Identifier: Nitric Acid 50 - 70%

Product Names and Synonyms: Nitric Acid , Azotic Acid, Engraver's Acid, Aqua Fortis

Intended Use: To be used as a nitrating agent. Intermediate process product for production of Ammonium Nitrate.

Intended Users: For use only under strictly controlled conditions and only by qualified personnel who are fully trained in the handling and use of this product.

Name, Address, and Telephone of the Responsible Party:

Austin Powder Company
25800 Science Park Dr.
Cleveland, OH 44122
216-464-2400 during normal business hours
877-836-8286 Toll Free 24/7
www.austinpowder.com

In Case of Emergency Call CHEMTREC – TOLL FREE 24/7
800-424-9300 DOMESTIC
1-703-527-3887 INTERNATIONAL AND MARINE

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture:

Code	Hazard Class	Hazard Category
H272	Oxidizing liquids	2
H290	Corrosive to metals	1
H314	Skin corrosion/irritation	1A, 1B, 1C
H331	Acute toxicity, inhalation	3

Label Elements:

Danger



Hazard Statements

May intensify fire; oxidizer
May be corrosive to metals
Causes severe skin burns and eye damage
Toxic if inhaled

Precautionary Statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep/Store away from clothing/ combustible materials.
Take any precaution to avoid mixing with incompatible materials, combustibles.



Keep only in original container.
 Avoid breathing vapors, mist, spray.
 Wash skin thoroughly after handling.
 Wear protective gloves/ protective clothing/ eye protection/ face protection

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Wash contaminated clothing before reuse

In case of fire: Use water only in flooding quantities. Water spray can also be used to keep fire exposed containers cooled. **Do not use chemical or foam** as extinguishing agents.

Absorb spillage to prevent material damage.
 Store locked up.
 Store in corrosive resistant stainless steel container with a resistant inner liner.
 Dispose of contents/ container to an approved waste disposal plant.

Other Hazards

Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	% (w/w)
Nitric acid	7697-37-2	50 - 70

SECTION 4: FIRST AID MEASURES

- General:** Never give anything by mouth to an unconscious person. If you feel unwell, get medical attention, show the label where possible.
- Inhalation:** When symptoms occur: move to open air, keep at rest and in a position comfortable for breathing. Get medical attention. Ventilate suspected area.
- Skin Contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
- Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most Important Symptoms and Effects both Acute and Delayed:

Acute Health Effects: Exposure to nitric acid can occur through all routes. Nitric acid is irritating and corrosive to all tissues with which it comes into contact. The severity of effects is dependent upon concentration and duration of exposure. Acute inhalation of nitric acid vapor can lead to symptoms such as ocular and nasal irritation, sore throat, cough, chest tightness, headache, ataxia



and confusion. In severe cases, pulmonary edema may develop hours or days following exposure. Acute ingestion may cause burns to the esophagus and stomach which can include ulceration, hemorrhage and perforation. Abdominal pain, difficulty swallowing, nausea, salivation, vomiting, diarrhea and hematemesis may also occur, and in some cases may be fatal. Dermal exposure may result in deep burns, blisters and permanent scarring. Ocular exposure may cause corneal burns, lacrimation, conjunctivitis, photophobia and, in severe cases, could lead to permanent blindness.

Delayed Health Effects: Pulmonary edema may develop 24 to 48 hours after an inhalation exposure to nitric acid, which can potentially be life threatening, with increasing breathlessness, wheeze, chest pain, cough, hypoxia and cyanosis.

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

Skin Contact: Causes severe irritation which will progress to chemical burns.

Eye Contact: Causes serious eye damage.

Ingestion: Contact may cause immediate severe irritation progressing quickly to chemical burns. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: May cause erosion of teeth, or chronic bronchitis

Indication of Any Immediate Medical Attention and Special Treatment Needed:

If exposed, concerned or you don't feel well, get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product itself does not burn. Use extinguishing measurements that are appropriate to local circumstances and the surrounding environment

Unsuitable Extinguishing Media: None known

Special Hazards Arising from the Substance or Mixture

Fire Hazard: May intensify fire; oxidizer, if allowed dry out

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. In contact with metals, emits flammable/explosive gas. May cause fire or explosion; strong oxidizer.

Reactivity: Thermal decomposition generates: toxic/corrosive vapors. Can react explosively with reducing agents, metal powders, Hydrogen sulfide, nitrate, and organic materials. Contact with metals may evolve flammable hydrogen gas.

Advice for Firefighters



- Precautionary Measures:** Exercise caution when fighting any chemical fire.
- Firefighting Instructions:** Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers.
- Hazardous Combustion Products:** Nitrogen oxides. Acrid vapors. Corrosive vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Contact the manufacturer or CHEMTREC. No smoking, open flames or flame/spark producing items in the area.

For Non-Emergency Personnel

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

Emergency Procedures: Isolate the area from unnecessary personnel.

For Emergency Personnel

Protective Equipment: Provide cleanup crew with proper PPE.

Emergency Procedures: Stop the discharge if safe to do so. Ventilate area.

Environmental Precautions: Avoid any release to the environment.

Methods and Material for Containment and Cleaning Up

Contact manufacturer or CHEMTREC.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards when Processed: May be corrosive to metals. When heated to decomposition, emits toxic fumes. Corrosive vapors are released. Contact with metals may evolve flammable hydrogen gas.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical, ventilating, and lighting equipment.

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

**Incompatible Materials:**

Strong acids. Strong bases. Strong oxidizers. Finely divided metals.
Hydrogen sulfide. Reducing agents. Organic materials.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**Occupational exposure limits:**

Nitric acid, CAS No. 7697-37-2		
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

Exposure Controls:**Appropriate Engineering Controls:**

Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment:**Hand Protection:**

Chemically resistant or acid-resistant gloves.

Eye Protection:

Safety glasses with face shield.

Skin and Body Protection:

Wear suitable protective clothing.

Respiratory Protection:

Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits. Use an acid gas cartridge, which is specifically approved for nitric acid.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**Information on Physical and Chemical Properties:**

Appearance:	Liquid, colorless to yellow
Odor:	Acrid odor
Odor threshold:	Not available
Vapor density:	>1 (at 20°C)
pH:	= < 1
Melting point:	Not available
Initial boiling point:	83.9°C (183°F)
Flash point:	Not available
Freezing point:	-41.1°C (-42°F)
Evaporation rate (butyl acetate=1):	>1
Flammability:	Not available
Upper / lower flammability or explosive limits:	Not available
Vapor pressure:	51 mm Hg @ 25°C (77°F)
Relative Density:	Not available
Specific Gravity:	1.3 – 1.4 g/cc
Solubility (in water):	Miscible



Partition coefficient: n-octol/water: Not available
 Auto-ignition temperature: Not available
 Decomposition temperature: Not available
 Viscosity: 0.761 cps @ 20°C (68°F)
 Volatility: 100%

SECTION 10: STABILITY AND REACTIVITY

Reactivity and Chemical Stability: Thermal decomposition generates: toxic/corrosive vapors. Can react explosively with reducing agents, metal powders, hydrogen sulfide, nitrate, and organic materials. Contact with metals may evolve flammable hydrogen gas.

Possibility of Hazardous Reactions: Polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame. Incompatible materials. Adding water to acid should be avoided.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Metals. May be corrosive to metals. Reducing agents. Amines.

Hazardous Decomposition Products: Thermal decomposition generates: Corrosive vapors. Nitrogen oxides. Explosive hydrogen gas. Toxic vapors.

SECTION 11: TOXICOLOGY INFORMATION

Acute Toxicity: Not classified

LD50 and LC50 Data: LC50 Inhalation Rat (vapour): 3mg/L/4h

Skin Corrosion/Irritation: Causes severe skin burns. pH < 1

Eye Damage/Irritation: Cause serious eye damage. pH < 1

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated 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 severe irritation which will progress to chemical burn

Symptoms/Injuries after Eye Contact: Cause serious eye damage.



Symptoms/Injuries after Ingestion:

Contact may cause immediate severe irritation progressing quickly to chemical burns. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms:

May cause erosion of the teeth, or chronic bronchitis.

SECTION 12: ECOLOGY INFORMATION

Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Call manufacturer or CHEMTREC.

SECTION 14: TRANSPORTATION INFORMATION

Agency	UN Number	Proper Shipping Name	Hazard Class	Label Codes	PG	Marine Pollutant	Other
US DOT	UN2031	Nitric Acid other than red fuming, with at least 65% but no more than 70% nitric acid	8	8, 5.1	II	---	ERG-157

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Concentrated Nitric Acid	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive 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 %

US State Regulations

Nitric acid (7697-37-2)	
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities	
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities	



SECTION 16: OTHER INFORMATION, INCLUDING DATE OF LAST REVISION

This SDS was prepared in accordance with US (29 CFR 1900.1200) requirements.

SDS: P-21

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Last Revision Date: n/a

Version: 1

Party Responsible for the Preparation of this Document:

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This information is based on Austin Powder Company's current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.