



SAFETY DATA SHEET

According to 29 CFR 1910.1200

NITRIC ACID

Date of issue: July 01, 2009 Revision date: September 01, 2023 Version: 5

SECTION 1.- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product form Substance
Substance name Nitric Acid (55 to 65%)
CAS No. 7697-37-2
Formula HNO_3
Synonyms Strong water, azotic acid, hydrogen nitrate.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture According to the technical sheet of the product.

1.3 Details of the supplier of the safety data sheet

Pima Chemicals & Fertilizers, LLC
1370 Nogales, Az.
Tel. 011 52 (662) 182-0559
rgutierrez@qpima.com
www.qpima.com

Química Pima, S.A. de C.V.
Del Cobre 20, Parque Industrial Hermosillo.
Hermosillo, Sonora, México. C.P. 83297
Tel. 011 (662) 251-0010 ventas@qpima.com

1.4 Emergency telephone number

Emergency number CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

SECTION 2.- HAZARD IDENTIFICATION

2.1. GHS-US classification

Oxidizing liquids 2 H272
Corrosive to metals 1 H290
Skin corrosion/irritation 1A H314
Serious eye damage/irritation 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US):

Danger

Hazard statement (GHS-US):

H272 May intensify; oxidizer.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Precautionary statements (GHS-US):

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition



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sources. No smoking.
 P220 Keep away from clothing and other combustible materials.
 P234 Keep only in original packaging.
 P260 Do not breathe dusts or mists.
 P264 Wash exposed skin thoroughly after handling.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower).
 P363 Wash contaminated clothing before reuse.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310 Immediately call a POISON CENTER/doctor.
 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/doctor.
 P370+P378 In case of fire: Use an extinguishing agent suitable for the surrounding fire.
 P390 Absorb spillage to prevent material-damage.
 P405 Store locked up.
 P406 Store in a corrosion resistant container with a resistant inner liner.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
 Toxic to aquatic organisms and plants.

2.3. Other hazards

2.4 Unknown acute toxicity (GHS-US)

Not applicable.

SECTION 3.- COMPOSICION / INFORMATION OF INGREDIENTS

3.1 Mixture Not applicable

3.2 Substance

Name	Product identifier	%	GHS-US classification
Nitric acid	(CAS No.) 7697-37-2	55 – 65	Ox Liq. 2; H272 Corr met. 1; H290 Skin corr 1A; H314 Ser Eye Dam 1; H318

SECTION 4.- FIRST AID MEASURE

4.1. Description of first air measure

First-aid measures general Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after eye contact Obtain medical attention immediately. Call a medical center. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Remove contact lenses if you use them and if they can be easily removed. Continue rinsing for at least 20 minutes. Chemical burns should be treated immediately by a doctor. Flushing the eyes in a matter of seconds is essential to achieve maximum effectiveness.

First-aid measures after skin contact Remove contaminated clothing and footwear immediately. Immediately wash the affected area with plenty of water for at least 20 minutes, repeating the washing operation if the irritation persists. Obtain medical attention immediately, as untreated cauterizations can become hard to heal. If the patient has



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First-aid measures after inhalation

to be transferred to a hospital center, continue with the washing during the journey. Never apply creams or ointments. Wash contaminated clothing separately before reuse.

Obtain medical attention immediately. Call a medical center. Transport the victim outdoors and keep them at rest in a position that facilitates breathing. If the vapors are still suspected, the person in charge of the rescue should wear an appropriate mask or self-contained breathing apparatus. If there is no breathing, it is irregular or a respiratory arrest occurs, trained personnel should provide artificial respiration or oxygen. It can be dangerous for the person providing help to give mouth-to-mouth breathing. If unconscious, place in recovery position and get medical attention immediately. Ensure good air circulation. Loosen everything that could be tight, like the collar of a shirt, a tie, a belt. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical supervision for 48 hours.

First-aid measures after ingestion

Obtain medical attention immediately. Call a medical center. Wash your mouth with water. If available, remove dentures if possible. Transport the victim outdoors and keep them at rest in a position that facilitates breathing. If the material has been ingested and the exposed person is conscious, provide small amounts of water to drink. Stop if the person feels that he is going to vomit, since doing so would be dangerous. Do not induce vomiting unless expressly indicated by medical personnel. In case of vomiting, keep the head down so that vomit does not enter the lungs. Chemical burns should be treated immediately by a doctor. Do not give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Ensure good air circulation. Loosen everything that could be tight, like the collar of a shirt, a tie, a belt.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	Very irritating to the respiratory system. It can irritate the respiratory tract.
Symptoms/injuries after skin contact	Causes severe burns.
Symptoms/injuries after eye contact	Causes serious eye damage.
Symptoms/injuries after ingestion	Corrosive to the digestive tract. It can cause burns to the mouth, throat and stomach. It can irritate the respiratory tract.
Chronic symptoms	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. Respiratory difficulties.

4.3. Indications of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5.- FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Adapt extinguishing media to the environment.
Unsuitable extinguishing media	Do not use water under pressure.

5.2. Special hazard arising from the substance or mixture

Fire hazard	DIRECT FIRE HAZARD. Noncombustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.
Reactivity	Decomposition products may include the following materials: nitrogen oxides and carbon monoxide.

5.3. Advice for firefighters



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Precautionary measures fire	Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.
Firefighting instructions	Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.
Protection during firefighting	Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6. - ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	Gloves. Protective clothing. Vapor or spray cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.
Emergency procedures	Mark the danger area. Prevent vapor or spray formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.
Measures in case of dust release	In case of vapor or spray production: keep upwind. Vapor or spray production: have neighborhood close doors and windows.

6.1.2. For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection"
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Do not allow product to spread into the environment. Do not discharge into drains or rivers

6.3. Methods and material for containment and cleaning up.

Method for containment	Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute vapor cloud with water spray. If reacting: dilute toxic gas/vapor with water spray. Take account of toxic/corrosive precipitation water.
Methods for cleaning up	Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection.

SECTION 7.- HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safe handling	Wear appropriate personal protective equipment (see Section 8). Do not allow it to enter into eyes or contact with skin or clothing. Do not breathe vapors or mists. Do not eat. If during normal use the material represents a respiratory hazard, ensure adequate ventilation or wear an appropriate respirator. Keep in the original container or in an authorized alternative made of compatible material, keep hermetically closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from alkalis. Keep away from heat. Empty containers retain product residues and can be hazardous. Do not reuse the container.
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7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in the original container protected from direct sunlight in a dry, cool and well-ventilated area, separated from incompatible materials (see Section 10), food and drink. Save under lock and key. Keep separate from alkalis. Keep separate from reducing agents and combustible materials. Do not store in unlabeled containers. Keep the container tightly closed and sealed until the moment of use. Do not allow water to enter the container because a violent reaction may occur. Containers that have been opened must be carefully closed and kept upright to prevent spills. Use an adequate safety container to avoid contamination of the environment. It contains nitric acid. It will corrode incompatible metals and many plastic materials. Acceptable building materials are 304 or 316 stainless steel. Storage tanks must be designed to meet the API 650 standard. Tanks must be ventilated and painted white or in heat reflecting colors. The pipes must be welded with stainless steel 304. Ensure that all pumps, valves, meters, are compatible material. The packages must be Teflon. It is recommended that there be a containment pit.

7.3 Specific end use(s) No additional information available.

SECTION 8.- EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid 7697-37-2	TWA: 2 ppm 8 hours STEL: 4 ppm 15 minutes	TWA: 2 ppm 8 hours STEL: 4 ppm 15 minutes	TWA: 2 ppm 10 hours STEL: 4 ppm 15 minutes

8.2. Exposure controls

Appropriate engineering controls	If the operation generates dust, fumes, gas, vapor or drizzle, limit the process area, use local ventilation or other engineering controls to maintain worker exposure to airborne contaminants below all recommended limits.
Personal protective equipment	Vapor production: vapor mask with 3M 6003 organic vapor/acid gas cartridge. Gloves. Safety glasses.
Material for protective clothing	GIVE GOOD RESISTANCE: Butyl rubber, neoprene, Viton. GIVE POOR RESISTANCE: natural fibers.
Hand protection	Gloves. Recommended: Butyl rubber, neoprene, Viton.
Eye protection	Safety glasses. In case of vapor production: protective goggles.
Skin and body protection	Protective clothing. Recommended: Tychem SL, Tychem F, Tychem ThermoPro, Tychem TK or equivalent.
Respiratory protection	Vapor production: vapor mask with 3M 6003 organic vapor/acid gas cartridge or SCBA.
Environmental exposure controls	Avoid release to the environment.

SECTION 9.- PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid.	Appearance:	Liquid.
Odor:	Acre	Color:	Colorless to pale yellow.
Molecular mass			63.01 g/mol
Odor threshold			0.75 mg/m ³
pH			< 1
pH solution			No data available.
Relative evaporation rate (butyl acetate=1)			No data available.
Melting/freezing point			- 41.6°C
Boiling point			83°C



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Flash point	Not applicable.
Self ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Flammability (solid, gas)	Not applicable.
Vapor pressure	6.1 kPa (46 mm Hg) Ambiental temperature
Relative vapor density at 20°C	2.2
Relative density	1.33 – 1.39 (20°C)
Solubility	Water soluble liquid
Log Pow	Not applicable (inorganic substance).
Log Kow	No data available.
Viscosity, kinematic	0.617
Viscosity, dynamic	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.
Explosive limits	No data available.

9.2 Other information No additional information available.

SECTION 10.- STABILITY AND REACTIVITY

10.1 Reactivity	Reactive or incompatible with the following materials: inorganic hydroxides, organic chemicals. Avoid contamination from any source including metals, dust, and organic materials. Reacts violently when water is added to this product. Reacts violently with bases. Incompatible with halogens. See NFPA 400, Hazardous Materials Code for more information on safe storage and handling of hazardous materials.
10.2 Chemical stability	The material is stable under normal environmental conditions and under predictable temperature and pressure conditions during storage and handling. Hazardous reactions or decomposition may occur in certain conditions of storage and use. Among the conditions may include the following: contact with incompatible substances, contact with combustible materials.
10.3 Possibility of hazardous reactions	The reactions may include the following: risk of causing or intensifying a fire, may be corrosive to metals. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.
10.4 Conditions to avoid	Drying on clothing or other combustible materials may cause fire. Keep away from clothing, incompatible materials and combustible materials.
10.5 Incompatible materials	It attacks many metals producing hydrogen gas that is highly flammable and can form explosive mixtures with air. Reactive or incompatible with the following materials: strong bases or alkalis, metals, fuels, organic matter, reducing agents, alcohols, hydrogen sulfide, chlorates, carbides, carbon steel, copper, alloys and chromic acid.
10.6 Hazardous decomposition products	It attacks many metals producing hydrogen gas that is highly flammable and can form explosive mixtures with air. Oxides of nitrogen, vapors of nitric acid, hydrogen. Thermal decomposition can produce irritating gases and fumes, with carbon dioxide, carbon monoxide and nitrogen oxides.



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SECTION 11.-TOXICOLOGICAL INFORMATION

11. 1. Information on toxicological effects

Likely routes of exposure Skin and eyes contact; inhalation; ingestion.
Acute toxicity Not classified.

Name	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀ inhalation
Nitric acid	-	-	2500 ppm (vapour) (Rat) (60 min)

Skin corrosion/irritation Causes severe burns.
Serious eye damage/irritation Causes serious eye damage.
Respiratory or skin sensitization Not classified.
Germ cell mutagenicity Not classified.
Carcinogenicity Not classified.
Reproductive toxicity Not classified.
Specific target toxicity (single exposure) May cause respiratory irritation.
Specific target toxicity (repeat exposure) Not classified.
Aspiration hazard Not classified.

SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Toxicity: Unhealthy for acuatic organisms.
- 12.2 Persistence and degradability: Quickly biodegradable It can produce eutrophication by adding nitrates.
- 12.3 Bioaccumulative potential: The product has a low bioaccumulation potential (-2.3 LogPow).
- 12.4 Mobility in soil: No data available.
- 12.5 Other adverse effects: No significant effects or critical risks are known.

SECTION 13.- DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste treatment methods Dispose of in accordance with relevant local regulations.
Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Precipitate/make insoluble.
Waste disposal recommendations Remove to an authorized dump (Class I). Do not discharge into surface water.

SECTION 14.- TRANSPORT INFORMATION

- 14.1. UN number 2031
- 14.2. UN proper shipping name Nitric Acid
- 14.3. Additional information
 - Other information No supplementary information available.
 - Overland transport No additional information available.





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Transport by sea
Air transport

No additional information available.
No additional information available.

SECTION 15.- REGULATORY INFORMATION

15.1 US Federal regulations

Nitric acid

Listed on the United States TSCA (Toxic Substances Control Act) inventory

RQ (Reportable quantity, section 304 of EPA's List of Lists) 1000 lb

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

15.2 International regulations

CANADA

Nitric acid

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

WHMIS Classification Class E – Corrosive material.
Class C – Oxidizing material

EU-Regulations

Nitric acid

No additional information available.

15.2.2. National regulations

Nitric acid

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16.- OTHER INFORMATION

NFPA	NFPA health hazard	3	NFPA fire hazard	0	NFPA instability hazard	2	NFPA Special hazard	OX
HMIS III	Health	3	Flammability	0	Physical	3	Personal Protection	H

G Splash goggles, Gloves, Synthetic apron, Vapor respirator



Made for: Quimica Pima, S.A. de C.V. Del Cobre No. 20 Parque Industrial. Hermosillo, Sonora, México. 83297.

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April 20, 2018 4th rev. Section 2 Hazard Identification was modified. Section 3 was improved.
September 01, 2023 5 rev. Syntax and spelling improvements and corrections were made.

IMPORTANT NOTE: Information in this SDS is from available published sources and is believed to be accurate, but is not exhaustive and will be used only as a guide, which is based on current knowledge of the chemical substance or mixture and apply to the appropriate product for safety precautions. No warranty, express or implied, is made and Pima Chemicals & Fertilizers, LLC and Quimica Pima, S.A. de C.V. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.