

Safety Data Sheet

NITRIC ACID 42 DEG.



according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Issue date: 3/23/2000

Revision date: 7/19/2024

Identification

Product Name	: NITRIC ACID 42 DEG.
Product code	: AC0042
CAS-No.	: MIXTURE
Synonyms	: Nitric Acid, Hydrogen Nitrate, Azotic Acid, Aqua Fortis
Recommended use	: No additional information available
Restrictions on use	: No additional information available

Supplier

BVV
1251 Frontenac Rd
Naperville, IL 60563
331-281-0154

EMERGENCY RESPONSE NUMBER:
CHEMTEL Emergency #: (800) 255-3924

Classification of the substance or mixture

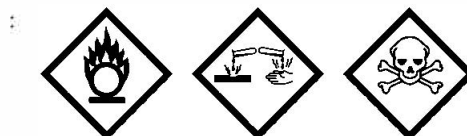
GHS US classification

Oxidizing liquids Category 3
Corrosive to metals Category 1
Acute toxicity (inhalation:vapor) Category 3
Skin corrosion/irritation Category 1A
Serious eye damage/eye irritation Category 1

GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

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

Precautionary statements (GHS US)

Prevention

: 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 clothing, combustible materials
Keep only in original container.
Do not breathe dust, mist, spray, vapors.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective clothing, eye protection, face protection.

Response

: 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.
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.
Call a doctor.
Specific treatment (see supplemental first aid instruction on the SDS).
Wash contaminated clothing before reuse.
In case of fire: Use Flood with plenty of water to extinguish.
Absorb spillage to prevent material-damage.

Storage

: Store in a well-ventilated place. Keep container tightly closed.
Store in a secure manner.
Store in corrosive resistant container with a resistant inner liner.

Disposal

: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Hazards not otherwise classified

Hazards not otherwise classified

: This product contains nitric acid. Concentrated nitric acid is a strong oxidizer and may cause fire or explosions. May be corrosive to the respiratory tract.

Unknown acute toxicity (GHS US)

Unknown acute toxicity (GHS US)

: 67.2% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
67.2% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)

Substances/ Mixtures

Name	Product identifier	%	GHS US classification
NITRIC ACID	CAS-No.: 7697-37-2	67.2	Met. Corr. 1, H290 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

Description of first aid measures

First-aid measures general

: Call a physician immediately.

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Apply artificial respiration if victim is not breathing. Get immediate medical advice/attention. SYMPTOMS MAY BE DELAYED.
First-aid measures after skin contact	: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Wash contaminated clothing before reuse. Get immediate medical advice/attention.
First-aid measures after eye contact	: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove any contact lens at once. Extensive irrigation is required. Do not interrupt flushing. Continue flushing with water during transport to emergency care facility.
First-aid measures after ingestion	: Rinse mouth, do not induce vomiting. (If vomiting occurs, keep head low so that stomach content doesn't get into lungs.) . Never give anything by mouth to an unconscious person. Do not give chemical antidote. Get immediate medical advice/attention.

Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: Gas, vapors, or mist may cause severe irritation or burns to the upper respiratory system including: nose, mouth, throat, and mucous membranes. Lung irritation, nitrogen oxide poisoning and pulmonary edema can occur at concentrations over 200 ppm. Effects may be delayed in onset up to 30 hours. Chronic exposure to nitric acid can produce changes in pulmonary function and or chronic bronchitis. Symptoms associated with respiratory viral infections have been associated with chronic exposure.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage. degeneration and necrosis. Concentrated nitric acid chars the tissue with a characteristic yellow coloration.
Symptoms/effects after eye contact	: Serious damage to eyes. Permanent eye damage. Corneal opacity. Can cause blindness. conjunctivitis.
Symptoms/effects after ingestion	: Causes damage to. mouth. throat. esophagus. stomach. digestive tract. May perforate the esophagus or the digestive tract. Erosion of teeth is possible.
Immediate medical attention and special treatment, if necessary	: Prolonged medical observation may be indicated.

Extinguishing media

Suitable extinguishing media	: Water spray. Flood fire area with water from a distance.
Unsuitable extinguishing media	: Do not use water jet.

Specific hazards arising from the chemical

Fire hazard	: May intensify fire; oxidizer.
Explosion hazard	: No direct explosion hazard.
Reactivity in case of fire	: Oxidizer. Could ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals could evolve flammable hydrogen gas. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc.
Hazardous decomposition products	: Nitrogen oxides. May generate flammable hydrogen gas.
Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Cool laterally with water containers exposed to flames, even after the fire is extinguished. Evacuate area. Stay upwind/keep distance from source. Reacts with water, generates heat. Neutralize run-off with lime or soda ash to prevent corrosion of metals and formation of hydrogen gas.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Personal precautions, protective equipment and emergency procedures

General measures	: CORROSIVE MATERIAL. Evacuate area. No flames, no sparks. Eliminate all sources of ignition.
Protective equipment	: Wear recommended personal 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	: Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Environmental precautions

Environmental precautions	: Avoid release to the environment. Notify authorities if product enters sewers or public waters.
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Methods and material for containment and cleaning up

For containment	: Contain spill. Shut off source of leak if safe to do so.
Methods for cleaning up	: Carefully neutralize spilled liquid, using : Sodium carbonate (soda ash), sodium bicarbonate, limestone powder. Adequate ventilation is required to eliminate any carbon or nitrogen oxides emitted during the neutralization process. Repeat the neutralization step if suspected corrosive liquid is still observed. Take up the neutralized liquid into an absorbent material. Place into drums for proper disposal. Flush remaining area with plenty of water to remove trace residue and dispose of properly.
Other information	: Dispose of materials or solid residues at an authorized site.
Reference to other sections	: For further information refer to section 13.

Precautions for safe handling

Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.
Precautions for safe handling	: Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Wear personal protective equipment. Do not eat, drink or smoke when using this product. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Provide readily accessible eye wash stations and safety showers. Keep container dry.
Hygiene measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for safe storage, including any incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in corrosive resistant container with a resistant inner liner. Keep only in original container. Store in a secure manner. Store in a well-ventilated place. Keep container tightly closed. Keep out of direct sunlight. Avoid storage on wood floors or near wooden walls, etc.
Incompatible materials	: Refer to Section 10 on Incompatible Materials.
Storage temperature	: No additional information available
Packaging materials	: Always store product in container of same material as original container.

Control parameters

Component	ACGIH	OSHA
NITRIC ACID	4 ppm STEL, 2 ppm TWA	5 mg/m ³ TWA

Appropriate engineering controls

Appropriate engineering controls	: Local exhaust or other engineering controls are needed to minimize exposures. Avoid creating dust or mist. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.
Environmental exposure controls	: Avoid release to the environment.

Individual protection measures/Personal protective equipment

Personal protective equipment	: Wear recommended personal protective equipment.
Hand protection	: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Impervious. Acid-proof.
Eye protection	: Do not wear contact lenses. Wear chemical safety goggles and a full face shield while handling this product.
Skin and body protection	: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Acid-proof. Impervious. Rubber Apron. Rubber boots. Chemical resistant safety shoes. Full-rubber acid suit.
Respiratory protection	: If exposure limits are exceeded, wear: NIOSH-Approved full face supplied air respirator for Nitric Acid or Nitrogen Oxide gases or mists. Note: Cartridge or cannister respirators are not suitable for Nitrogen Oxide use. DO NOT USE chemical cartridge respirators with oxidizable sorbants. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use. Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits.
Other information	: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking. Eyewash station. Safety shower. Rubber apron. Chemical safety shoes. Rubber boots. Protective clothing. Full-rubber acid suit.

Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Clear. Colorless to faint yellow.
Odor	: Acrid.
Odor threshold	: No data available
pH	: < 1
Melting point	: Not applicable
Freezing point	: -25 °F 67.2% HNO ₃
Boiling point	: 248 °F 67.2% HNO ₃
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Substance does not burn but will support combustion.
Vapor pressure	: 9 – 10 mm Hg @ 25 °C
Relative vapor density at 20°C	: No data available
Relative density	: > 1.4078 @ 25 °C
Solubility	: Complete.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

Information on stability and reactivity

Reactivity	: Keep away from reducing agents. Keep away from combustible materials. Organic materials. May be corrosive to metals.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use. May react with certain metals to produce flammable hydrogen gas. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc. Readily oxidizes combustible, organic or other readily oxidizable materials.
Conditions to avoid	: Reacts with water (moisture): release of heat. Do not add water to product. Unstable on exposure to heat. Contact with water may cause violent reaction with evolution of heat. To Dilute: add product slowly to lukewarm water; not water to product.
Incompatible materials	: acids. alkalies. alcohols. sulfides. reducing agents. metals. organic materials. metallic powders. turpentine. readily-oxidized materials. cyanides. carbides. combustible materials. hydrogen sulfide. moisture. wood. paper.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:vapor: Toxic if inhaled.

Numerical measures of toxicity

Component	Oral LD50	Dermal LD50	Inhalation LC50
NITRIC ACID	No data available	No data available	Rat: > 2.65 mg/l Rat (ppm): 2500 ppm/1h

ATE Values: NITRIC ACID 42 DEG. (MIXTURE)

ATE US (vapors) 2.53 mg/l/4h

Skin corrosion/irritation	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS.
Serious eye damage/irritation	: CORROSIVE-CAUSES SEVERE IRRITATION AND BURNS.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: Gas, vapors, or mist may cause severe irritation or burns to the upper respiratory system including: nose, mouth, throat, and mucous membranes. Lung irritation, nitrogen oxide poisoning and pulmonary edema can occur at concentrations over 200 ppm. Effects may be delayed in onset up to 30 hours. Chronic exposure to nitric acid can produce changes in pulmonary function and or chronic bronchitis. Symptoms associated with respiratory viral infections have been associated with chronic exposure.
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Symptoms/effects after eye contact	: Serious damage to eyes. Permanent eye damage. Corneal opacity. Can cause blindness. conjunctivitis.

Symptoms/effects after ingestion	: Causes damage to. mouth. throat. esophagus. stomach. digestive tract. May perforate the esophagus or the digestive tract. Erosion of teeth is possible.
Other information	: No additional information available

Toxicity

NITRIC ACID (7697-37-2)

LC50 - Fish [1]	4400 mg/l
LC50 - Other aquatic organisms [1]	39 mg/l Source: ECHA
LC50 - Fish [2]	1354 mg/l Test organisms (species): other:

Persistence and degradability

NITRIC ACID (7697-37-2)

Persistence and degradability	<p>NITRIC ACID:</p> <p>Environmental Fate:</p> <p>Stability in Water: Dissociates into its respective ions (H⁺; NO₃⁻)</p> <p>Stability in Soil: No data available.</p> <p>Transport and Distribution: Transportation: Dissolves carbonates; nitrate ions taken up by plants stimulate growth.</p> <p>Degradation Products:</p> <p>Biodegradation: No data available.</p> <p>Photodegradation: Does not bioaccumulate.</p>
Partition coefficient n-octanol/water (Log Pow)	-2.3 (at 25 °C)

Disposal methods

Regional waste regulation	: U.S. - RCRA (Resource Conservation Recovery Act) - D Series Wastes - Corrosivity D002.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: If approved, neutralize material and flush to sewer. If neutralized waste contains water dissociable nitrate compounds in aqueous solution, it is subject to the reporting requirements of SARA Section 313. Neutralized waste must be disposed of in accordance with applicable federal, state and local disposal regulations. Waste may have to be disposed of by an approved contractor. Do not re-use empty containers. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition.

Modes of transport

DOT (Department of Transportation):

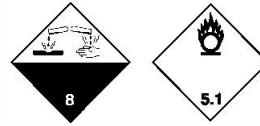
Identification Number (DOT)	: UN2031
Proper Shipping Name (DOT)	: Nitric acid
Hazard Class (DOT)	: 8 (5.1)
Packing group (DOT)	: II
Labels Required (DOT)	: Corrosive, Oxidizer



NITRIC ACID 42 DEG.

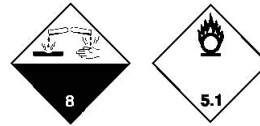
IMDG (International Maritime Dangerous Goods Code):

Identification Number (IMDG) : UN2031
Proper Shipping Name (IMDG) : NITRIC ACID
Hazard Class (IMDG) : 8 (5.1)
Packing group (IMDG) : II
Labels Required (IMDG) : Corrosive substances, Oxidizing substances



IATA (International Air Transport Association):

Identification Number (IATA) : UN2031
Proper Shipping Name (IATA) : Nitric acid
Hazard Classes (IATA) : 8 (5.1)
Packing group (IATA) : II
Labels Required (IATA) : Corrosive, Oxidizer



Environmental hazards

No additional information available

Other transport information

The transportation classifications provided on this SDS are for informational purposes only and based upon the properties of the product as described in this document. The listed transportation classifications may not address variations due to changes in package size, mode of shipment, regional or country regulations, or other regulatory descriptors.

DOT RQ Table

Name	DOT RQ
NITRIC ACID	1000 lbs RQ

US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

NITRIC ACID	CAS-No. 7697-37-2	67.2%
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NITRIC ACID (7697-37-2)

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
Section 302 EPCRA Reportable Quantity (RQ)	1000 lb

NITRIC ACID (7697-37-2)

SARA Section 302 Threshold Planning Quantity 1000 lb
(TPQ)

US State regulations

Component	CAS No.	State or local regulations
NITRIC ACID	7697-37-2	Wisconsin HAP

Hazard Rating System

Health: 3 *
Flammability: 0
Physical: 1

NFPA Rating System

NFPA health hazard: 4
NFPA fire hazard: 0
NFPA reactivity: 0
NFPA specific hazard: OX

Abbreviations and acronyms

HAP	Hazardous Air Pollutant
VOC	Volatile Organic Compound
STEL	Short Term Exposure Limit
TWA	Total Average Weight
RQ	Reportable Quantity

Revision date: 7/19/2024

Supersedes: 3/28/2024

Issue date: 3/23/2000

Indication of changes: Section 13.Change(s) made in section 2.

SDS Prepared by: AF