



## EPOCH MASTER GLOBAL BUSINESS (JIANGSU)

RM.3-93,TENGFEI BUILDING,NO.88 JIANGMIAO RD., RESEARCH AND INNOVATION PARK,NANJING ZONE, (JIANGSU) PILOT FREE TRADE ZONE, CHINA

Tel.:+86258336556

Website:https://www.epoch-master.com

<b>Name:</b>	<b>Nitric Acid 68% Material Safety Data Sheet</b>
<b>Synonym:</b>	Azotic acid; Engravers nitrate; Hydrogen nitrate
<b>CAS:</b>	7697-37-2

### Section 1 - Chemical Product

MSDS Name: Nitric Acid 68%

Synonym: Azotic acid; Engravers nitrate; Hydrogen nitrate.

### Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
7697-37-2	Nitric acid	68	231-714-2
7732-18-5	Water	32	231-791-2

### Section 3 - HAZARDS IDENTIFICATION

GHS PICTOGRAMS



#### EMERGENCY OVERVIEW

Causes severe burns. Contact with combustible material may cause fire. Corrosive.

Potential Health Effects

Eye:

Causes severe eye burns. May cause irreversible eye injury. May cause chemical conjunctivitis and corneal damage.

Skin:

Causes skin burns. May cause deep, penetrating ulcers of the skin.

May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

Ingestion:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May cause systemic effects.

Inhalation:

Effects may be delayed. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.

Chronic:

Repeated inhalation may cause chronic bronchitis. Repeated exposure may cause erosion of teeth.

Effects may be delayed.



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### Section 4 - FIRST AID MEASURES

**Eyes:** Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

**Skin:**

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:**

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:**

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:**

### Section 5 - FIRE FIGHTING MEASURES

**General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with combustible materials may cause a fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Use water with caution and in flooding amounts.

**Extinguishing Media:**

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Contact professional fire-fighters immediately.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Neutralize spill with sodium bicarbonate. Remove all sources of ignition.

Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

### Section 7 - HANDLING and STORAGE

**Handling:**



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Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Avoid ingestion and inhalation. Discard contaminated shoes.

### Storage:

Keep away from heat, sparks, and flame. Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Bottles should be vented periodically in order to overcome pressure buildup.

## Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment Eyes: Wear chemical goggles.

### Skin:

Wear appropriate gloves to prevent skin exposure.

### Clothing:

Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

### Respirators:

Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: clear to yellow

Odor: strong odor - acrid odor

pH: 1.0

Vapor Pressure: 6.8 mm Hg

Viscosity: Not available.

Boiling Point: 122 deg C

Freezing/Melting Point: -42 deg C

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature: Not available.

Solubility in water: Soluble.

Specific Gravity/Density: 1.43

Molecular Formula: HNO<sub>3</sub>



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Molecular Weight: 63.01

### Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable. Decomposes when in contact with air, light, or organic matter.

Conditions to Avoid:

High temperatures, moisture.

Incompatibilities with Other Materials:

Reducing agents, acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), alcohols and glycols (e.g. butyl alcohol, ethanol, methanol, ethylene glycol), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), amides (e.g. butyramide, diethyltoluamide, dimethyl formamide), amines (aliphatic and aromatic, e.g. dimethyl amine, propylamine, pyridine, triethylamine), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), carbamates (e.g. carbanolate, carbofuran), caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), cyanides (e.g.

potassium cyanide, sodium cyanide), dithiocarbamates (e.g. ferbam, maneb, metham, thiram), esters (e.g. butyl acetate, ethyl acetate, propyl formate), ethers (e.g. dioxane, furfuran, tetrahydrofuran (THF)), fluorides (inorganic, e.g. ammonium fluoride, calcium fluoride, cesium fluoride), hydrocarbons (aromatic, e.g. benzene, chrysene, cumen.

Hazardous Decomposition Products:

Nitrogen oxides, hydrogen gas.

Hazardous Polymerization: Has not been reported.

### Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 7697-37-2: QU5775000 QU5900000 CAS# 7732-18-5: ZC0110000 LD50/LC50:

CAS# 7697-37-2: Inhalation, rat: LC50 = 67 ppm(NO<sub>2</sub>)/4H.

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Nitric acid - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Water - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Other:

See actual entry in RTECS for complete information.

### Section 12 - ECOLOGICAL INFORMATION

Other For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

### Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.



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### Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: NITRIC ACID

Hazard Class: 8

UN Number: 2031

Packing Group: II

IMO

Shipping Name: NITRIC ACID

Hazard Class: 8

UN Number: 2031

Packing Group: II

RID/ADR

Shipping Name: NITRIC ACID

Dangerous Goods Code: 8(2B)

UN Number: 2031

### Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: O C

Risk Phrases:

R 35 Causes severe burns.

R 8 Contact with combustible material may cause  
fire.

Safety Phrases:

S23B Do not breathe fumes.

S 26 In case of contact with eyes, rinse immediately  
with plenty of water and seek medical advice.

S 36 Wear suitable protective clothing.

S 45 In case of accident or if you feel unwell, seek  
medical advice immediately (show the label where  
possible).

WGK (Water Danger/Protection)

CAS# 7697-37-2: 1

CAS# 7732-18-5: No information available.

United Kingdom Occupational Exposure Limits

CAS# 7697-37-2: OES-United Kingdom, TWA 2 ppm TWA; 5.2 mg/m<sup>3</sup> TWA

CAS# 7697-37-2: OES-United Kingdom, STEL 4 ppm STEL; 10 mg/m<sup>3</sup> STEL

CAS# 7697-37-2: OES-United Kingdom, STEL 4 ppm STEL; 10 mg/m<sup>3</sup> STEL

Canada



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CAS# 7697-37-2 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7697-37-2 is listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

### Exposure Limits

CAS# 7697-37-2: OEL-ARAB Republic of Egypt:TWA 2 ppm (5 mg/m<sup>3</sup>)

OEL-AUSTRALIA:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 4 ppm (10 mg/m<sup>3</sup>)

OEL-BELGIUM:TWA 2 ppm (5.2 mg/m<sup>3</sup>);STEL 4 ppm (10 mg/m<sup>3</sup>)

OEL-CZECHOSLOVAKIA:TWA 2.5 mg/m<sup>3</sup>;STEL 5 mg/m<sup>3</sup>

OEL-DENMARK:TWA 2 ppm (5 mg/m<sup>3</sup>)

OEL-FINLAND:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 5 ppm (13 mg/m<sup>3</sup>);Skin

OEL-FRANCE:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 4 ppm (10 mg/m<sup>3</sup>)

OEL-GERMANY:TWA 10 ppm (25 mg/m<sup>3</sup>)

OEL-HUNGARY:STEL 5 mg/m<sup>3</sup>

OEL-JAPAN:TWA 2 ppm (5.2 mg/m<sup>3</sup>)

OEL-THE PHILIPPINES:TWA 2 ppm (5 mg/m<sup>3</sup>)

OEL-POLAND:TWA 10 mg/m<sup>3</sup>

OEL-RUSSIA:TWA 2 ppm;STEL 2 mg/m<sup>3</sup>;Skin

OEL-SWEDEN:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 5 ppm (13 mg/m<sup>3</sup>)

OEL-SWITZERLAND:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 4 ppm (1 mg/m<sup>3</sup>)

OEL-THAILAND:TWA 2 ppm (5 mg/m<sup>3</sup>)

OEL-TURKEY:TWA 2 ppm (5 mg/m<sup>3</sup>)

OEL-UNITED KINGDOM:TWA 2 ppm (5 mg/m<sup>3</sup>);STEL 4 ppm (10 mg/m<sup>3</sup>)

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

US FEDERAL

TSCA

CAS# 7697-37-2 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

### Section 16 - Other Information

Reference documents: 1. Material Safety Data Sheet (Zhou Guotai) Chemical Industry Press 1997

2. Safety Manual for Common Dangerous Chemical Products (Zhang Weifan, Zhang Haifeng) China Medical Science Press 1992

Revision instruction: version 3