Safety Data Sheet (SDS)

acc. to OSHA HCS 29 CFR 1910.1200(g) revised in 2012

Issued date: 03/01/2024 Revision date: 03/01/2024

Trade name: Nitric Acid 67%

1 Identification

Product identifier

Trade name: Nitric Acid 67%

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

Recommended uses: Industrial, manufacturing or laboratory use.

Uses advised against: Food, drugs, pesticide, cosmetics, medical devices, human or animal application.

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alchemie Labs Inc.

Address: 53 Capital Dr
Wallingford, CT 06492

Telephone: +1 (203) 208 8869

Emergency telephone number

+1 (203) 208 8869

2 Hazard(s) identification

Classification of the substance or mixture

Classification in accordance with 29 CFR 1910.1200 (OSHA HCS):

Oxidizing liquids, Category 3	H272 May intensify fire; oxidizer.
Corrosive to metals, Category 1	H290 May be corrosive to metals.
Acute toxicity – Inhalation, Category 3	H331 Toxic if inhaled.
Skin corrosion, Category 1A	H314 Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318 Causes serious eye damage.

GHS Label elements, including precautionary statements

Hazard pictograms:

GHS03 GHS05 GHS06

Signal word: Danger

Hazardous components: Nitric acid

Hazard statements:

H272	May intensify fire; oxidizer.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

Precautionary statements:

P210	Keep away from heat.
P220	Keep/Store away from clothing/combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P234	Keep only in original container.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
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/shower.

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P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 + P310	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 or doctor/physician.
P363	Wash contaminated clothing before reuse.
P370 + P378	In case of fire: Use CO_2, powder or water spray for extinction.
P390	Absorb spillage to prevent material damage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container in accordance with local/regional/national/ international regulations.

Classification system: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme.

NFPA ratings (scale 0 - 4)

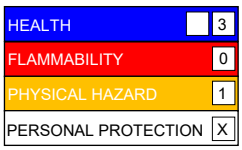
Health = 3

Flammability = 0

Instability = 1

The mixture possesses oxidizing properties.

HMIS-ratings (scale 0 - 4)



Health = 3

Flammability = 0

Physical hazard = 1

Other hazards

The mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3 Composition/information on ingredients

Chemical characterization: Mixtures.

Components:

Chemical name	Common name and synonyms	CAS number	Weight %
Nitric acid	Hydrogen nitrate	7697-37-2	65-69
Water	-	7732-18-5	31-35

Additional information:

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-aid measures

Description of first aid measures

Inhalation:

Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Eye contact:

Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion:

Rinse mouth with water. Do NOT induce vomiting. Give a cupful of water. Do not attempt to neutralize. Get medical attention immediately.

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Skin contact:
Wash off immediately with plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention immediately.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in Section 2 and/or in Section 11.
Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing media: CO_2, extinguishing powder, alcohol-resistant foam or water spray.
Unsuitable extinguishing media: No information available.
Special hazards arising from the substance or mixture
Thermal decomposition can lead to release of nitrogen oxides (NO_x). Contact with combustible or organic materials may cause fire.
Advice for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
Environmental precautions
Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Ensure adequate ventilation.
Clean surfaces thoroughly with water to remove residual contamination.
Dispose of all waste and cleanup materials in accordance with regulations.
Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Wash hands after use.
Conditions for safe storage, including any incompatibilities
Keep containers tightly closed in a dry, cool and well-ventilated place.
Do not store in metal containers.
Do not store near combustible materials.
Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials.
Specific end use(s)
No additional information available.

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8 Exposure controls/personal protection

Control parameters

Occupational exposure limits:

Component	CAS number	OSHA PEL	NIOSH REL	ACGIH TLV
Nitric acid	7697-37-2	2 ppm TWA 5 mg/m^3 TWA	2 ppm TWA 5 mg/m^3 TWA 4 ppm STEL 10 mg/m^3 STEL	2 ppm TWA 4 ppm STEL
Water	7732-18-5	Not listed	Not listed	Not listed

Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal protective equipment:

Eye/face protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Tight sealing safety goggles. Face protection shield.

Skin protection:

Wear protective gloves (nitrile rubber, butyl rubber, Viton), protective clothing and/or acid resistant apron.

Respiratory protection:

Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirators if exposure limits are exceeded or if irritation or other symptoms are experienced.

9 Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	Liquid
Color:	Colorless
Odor:	Pungent
pH-value at 20°C (68°F):	<1
Melting point/freezing point:	Not determined
Boiling point/boiling range:	Not determined
Flash point:	Not applicable
Evaporation rate:	Not determined
Flammability (solid, gas):	Contact with combustible material may cause fire
Lower explosion limit:	Not determined
Upper explosion limit:	Not determined
Vapor pressure at 20°C (68°F):	11 hPa (8.3 mm Hg)
Vapor density:	Not determined

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Density at 20°C (68°F):	1.41 g/cm³ (11.7670 lbs/gal)
Relative density:	Not determined
Solubility:	Soluble in water
Partition coefficient: n-octanol/water:	Not determined
Auto-ignition temperature:	Product is not self-igniting
Decomposition temperature:	Not determined
Kinematic viscosity:	Not determined
Dynamic viscosity:	Not determined

Other information

No additional information available.

10 Stability and reactivity

Reactivity

Oxidizing agent. Corrosive to metals.

Chemical stability

Product is stable under normal conditions.

Possibility of hazardous reactions

No information available.

Conditions to avoid

Direct sunlight. Excess heat.

Incompatible materials

Strong bases, reducing agents, organic materials, aldehydes, alcohols, cyanides, metals, powdered metals, ammonia, combustible materials.

Hazardous decomposition products

Nitrogen oxides (NO_x).

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Product information:

Acute toxicity estimate (ATE):

Exposure route	Value	Exposure time	Method
Inhalation (vapor)	3.84 mg/l	4 h	Calculation

Toxic if inhaled.

Components information:

Component	CAS number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid	7697-37-2	-	-	2500 ppm (Rat) 1 h
Water	7732-18-5	> 90000 mg/kg (Rat)	-	-

Acute toxicity estimate (ATE):

Component	CAS number	Exposure route	Value	Exposure time
Nitric acid	7697-37-2	Inhalation (vapor)	2.65 mg/l	4 h

Skin corrosion/irritation: Severe skin irritation. Causes skin burns.

Serious eye damage/eye irritation: Causes eye burns. May cause irreversible eye damage

Respiratory or skin sensitization: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity:

Component	CAS number	IARC	NTP	OSHA	ACGIH
Nitric acid	7697-37-2	Not listed	Not listed	Not listed	Not listed
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed

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Reproductive toxicity: Not classified.
STOT–single exposure: Not classified.
STOT–repeated exposure: Not classified.
Aspiration hazard: Not classified.

12 Ecological information

Toxicity

Component	CAS number	Test type	Value	Species	Exposure time
Nitric acid	7697-37-2	LC50	72 mg/l	Gambusia affinis	96h

Persistence and degradability
No information available.

Bioaccumulative potential

Component	CAS number	Test type	Value	Exposure time
Nitric acid	7697-37-2	Log Pow	-2.3 (at 25°C)	-

Mobility in soil
No information available.

Results of PBT and vPvB assessment
The mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects
No additional information available.

13 Disposal considerations

Waste treatment methods
Dispose of in accordance with all applicable federal, state, and/or local laws and regulations. Do not allow product to reach sewage system.

Contaminated packaging:
Dispose of in accordance with all applicable federal, state, and local regulations. Dispose of as unused product.

14 Transport information

In Accordance with DOT:

UN number or ID number UN2031
UN proper shipping name Nitric acid other than red fuming, with at least 65 percent, but not more than 70 percent
Transport hazard class(es) 8
Packing group II
Hazard label(s) 8, 5.1

In Accordance with IMDG:

UN number or ID number 2031
UN proper shipping name NITRIC ACID other than red fuming, with at least 65% but with not more than 70% nitric acid
Transport hazard class(es) 8 (5.1)

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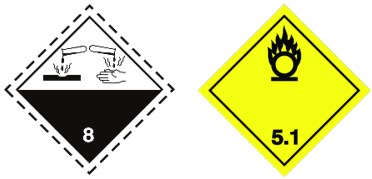
Packing group II
Hazard label(s) 8, 5.1



EmS code F-A, S-Q

In Accordance with IATA:
UN number or ID number 2031
UN proper shipping name Nitric acid other than red fuming, with ≥ 65% but ≤ 70% nitric acid
Transport hazard class(es) 8 (5.1)
Packing group II
Hazard label(s) 8 + 5.1

Passenger and Cargo Aircraft Forbidden

Environmental hazards
Not classified as a Marine Pollutant.
Special precautions for user
See Section 7 and 10.
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
Not applicable.

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
U.S. Federal Regulations
TSCA Status:
All components of this product are listed as Active on the TSCA Inventory.
OSHA Hazard Communication Standard:
This product contains “Hazardous Chemicals” as defined by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
CERCLA Hazardous Substance List (40 CFR 302.4):
Nitric acid (CAS No. 7697-37-2): 1000 lbs RQ.
SARA Title III Section 302 (40 CFR 355):
Nitric acid (CAS No. 7697-37-2): 1000 lbs TPQ.
SARA Title III Section 304 (40 CFR 355):
Nitric acid (CAS No. 7697-37-2): 1000 lbs EPCRA RQ.
SARA Title III Section 313 (40 CFR 372):
Nitric acid (CAS No. 7697-37-2): 1.0 % de minimis concentration.
SARA Title III Section 311/312 Hazard Categories (40 CFR 370):
Nitric acid (CAS No. 7697-37-2): Oxidizer, Corrosive to metal, Acute toxicity, Serious eye damage, Skin corrosion.
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):
Nitric acid (CAS No. 7697-37-2): 1000 lbs RQ.

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Clean Air Act:
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
U.S. State Regulations
California Proposition 65:
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
Massachusetts Right to Know Substance List:
Nitric acid (CAS No. 7697-37-2): Extraordinarily hazardous.
Pennsylvania Right to Know Hazardous Substances:
Nitric acid (CAS No. 7697-37-2): Environmental hazard.
New Jersey Worker and Community Right to Know Components:
Nitric acid (CAS No. 7697-37-2): SN 1356 500 lbs TPQ.
Chemical safety assessment
No information available.

16 Other information

Prepared by:
Issued date: 03/01/2024
Revision date: 03/01/2024
Revision number: 1.0

Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American Nation Standards Institute
ATE	Acute Toxicity Estimate
CAS	Chemical Abstract Service
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
EmS	Emergency Schedule
EC50	Effective Concentration, 50%
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
GHS	Globally Harmonized System
HMIS	Hazardous Materials Information System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
LOAEL	Lowest Observed Adverse Effect Level
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Agency
NIOSH	National Institute for Occupational Safety & Health
NOAEL	No Observable Adverse Effect Level
NOEC	No Observed Effect Concentration
NTP	National Toxicology Program
OSHA	Occupational Safety & Health Administration

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PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self-Contained Breathing Apparatus
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
vPvB	Very Persistent and Very Bioaccumulative

Disclaimer

The information provided in this Safety Data Sheet is based on our 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.

Alchemie Labs Inc. specifies that this product is intended for use in industrial, manufacturing, or laboratory settings only. It is explicitly advised against using this product in food, drugs, or as a pesticide. Furthermore, it cannot be utilized for human or animal applications (excluding specific laboratory-bred species), in cosmetics, medical devices, or in any products that may contravene the Federal Food, Drug, and Cosmetic Act, the Federal Insecticide, Fungicide, and Rodenticide Act, or the Toxic Substances Control Act. Since conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this product. Buyers and users are responsible for ensuring regulatory compliance, safety, efficacy, and appropriate hazard communication for all applications.