

NITRIC ACID 65%

Date of issue: 2024/05/31
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product Identifier

Product form: Liquid
Chemical Name: Nitric Acid 65%
Index No.: 0007-004-00-1
EC No.: 231-714-2
CAS No.: 7697-37-2

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

1.2.1 Relevant identified uses: Laboratory Chemical

1.2.2 Uses advised against: No additional information available.

1.3 Details of the supplier of the safety data sheet.

De Bruyn Spectroscopic Solutions
70/145 Chattan Road
Glenfernness
Midrand, 2191 Gauteng
South Africa

1.4 Emergency telephone number

RSA: 086 100 0366
Namibia: 080 010 0366
Other Countries: Contact Local Emergency Services.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification Regulation (EC) No 1272/2008 (CLP):

Ox.Liq. 3, H272
Met.Cor. 1A, H290
Skin Corr. 1A, H314
Ac. tox. 3, H331

Full text of hazard classes and H statements: see Section 16.

Adverse physicochemical, human health and environmental effects:

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

2.2 Label Elements

Labelling (Regulation (EC) No 1272/2008

Hazard Pictograms:



Signal word: DANGER

Hazardous ingredients: Nitric Acid

Hazard Statements :

H272 – May intensify fire; oxidiser

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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 - Keep away from clothing and other combustible materials.

P221 - Take any precaution to avoid mixing with combustibles.

P260 - Do not breathe mist.

P264 - Wash hands, forearms, and face thoroughly after handling.

Nitric Acid 65%

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 - IF ON SKIN (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing.

P304+P340 - IF INHALED: remove to fresh air and keep at rest in a position suitable for breathing.

P310 - Immediately call a POISON CENTER/doctor.

Hazards not contributing to classification:

Adding water to acid may cause splattering, always add acid to water in a controlled manner with stirring.

Supplemental Information (EU):

EUH071 - Corrosive to the respiratory tract.

Reduced Labeling (≤ 125 ml)

Pictogram



Signal Word Danger

Toxic if inhaled.

Causes severe skin burns and eye damage.

Precautionary Statements

Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

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.

EUH071 Corrosive to the respiratory tract.

2.3

Other hazards

Other hazards not contributing to the classification:

This substance/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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable.

3.2 Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nitric Acid	(CAS-No.) 7697-37-2 (EC-No.) 231-714-2 (EC Index-No.) 007-004-00-1	50-70	Ox. Liq. 3, H272; Met cor 1, H290; Ac tox 3, H331 Skin Corr. 1A, H314; Eye dam 1, H318 Specific concentration limits: (5 =< 20) Skin Corr. 1B, H314 (C >= 20) Skin Corr. 1A, H314 (65 =< 99) Ox. Liq. 3, H272 (C >= 99) Ox. Liq. 2, H272

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First aid measures general

Call a physician immediately. First aiders need to protect themselves

First aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing. Call a physician/doctor immediately.

First aid measures after skin contact

Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.

First aid measures after eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First aid measures after ingestion

Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after skin contact	Burns
Symptoms/effects after eye contact	Serious damage to eyes. Risk of blindness.
Symptoms/effects after ingestion	Severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

4.3 **Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 **Extinguishing media**
Suitable extinguishing media Water spray. Dry powder. Foam. Carbon dioxide.

5.2 **Special hazards arising from the substance or mixture**
Fire hazard Product not combustible. May intensify fire, oxidiser.
Hazardous decomposition products in case of fire Toxic fumes may be released. Nitrogen oxides (NOx)

5.3 **Advice for firefighters**
Protection during firefighting Do not attempt to act without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

5.4 **Further Information**
Suppress (knock down) gases/vapours/mists with a water spray jet. Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 **Personal precautions, protective equipment, and emergency procedures**

6.1.1 **For non-emergency personnel**
Emergency procedures Avoid substance contact. Do not breathe vapours, aerosols. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.1.2 **For emergency responders**
Protective equipment Do not attempt to act without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2 **Environmental precautions**
Avoid release to the environment.

6.3 **Methods and materials for containment and cleaning up**
Methods for cleaning up Take up liquid spill into non-combustible absorbent material. Notify authorities if product enters sewers or public waters.
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, 13

SECTION 7: HANDLING AND STORAGE

7.1 **Precautions for safe handling**
Precautions for safe handling Wear recommended personal protective equipment. See section 8. Avoid contact with eyes and skin. Do not inhale vapour/aerosols. Do not add water to acid, always add acid to water in a controlled manner with stirring.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Immediately change contaminated clothing. Wash hands before breaks and at the end of workday. Do not eat, drink or smoke while working.

7.2 **Conditions for safe storage, including any incompatibilities**
Storage conditions Store locked up. Store tightly closed in a well-ventilated place. Keep cool.

Incompatible materials Combustible materials.

Packaging Polypropylene/polyethylene

7.3	<u>Specific end users</u>	No additional information.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits

Nitric Acid (CAS: 7697-37-2)		
United Kingdom	WEL STEL (mg/m ³) WEL STEL	2.6 mg/m ³ 1 ppm
South Africa; HCA Regulations	TWA (8 Hour) STEL (15 min)	4 ppm 8 ppm

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation of the workstation.

Personal protective equipment

Hand protection

Protective gloves

Eye protection

Tightly fitting safety goggles/face mask

Skin and body protection

Acid resistant protective clothing, PVC apron.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Recommended Filter type: Filter E-(P3).



Environmental exposure controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Product form	Liquid
Appearance	Colourless
Odour	Slight
Odour threshold	No data available
pH	<1 @ 20°C
Relative evaporation rate (butylacetate=1)	No data available
Melting point/Freezing Point	-31°C
Initial Boiling point	122°C (at 1.013 hPa)
Flash point	No data available
Auto-ignition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapour pressure	No data available
Vapour pressure @ 50°C	50 hPa
Vapour density	No data available
Relative vapour density @ 20°C	No data available
Density	1.40-1.48 g/cm ³ @ 20°C
Solubility (water)	Miscible
Log Pow	No data available
Viscosity, kynematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Not classified as explosive
Explosive limits	No applicable

Oxidising properties	Oxidising liquid, Category 3
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9.2 Additional information
No additional data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
The product is non-reactive under recommended conditions of use, storage and transport.

10.2 Chemical stability
Stable under recommended storage conditions. Oxidizer: contact with combustible/organic materials may cause fire.

10.3 Possibility of hazardous reactions
Strong oxidizer: reacts violently with strong bases, organic materials, metals, hydrogen sulphide, carbides, alcohols, organic solvents, cyanides, sulphides.

10.4 Conditions to avoid
Incompatible products, combustible materials, uncontrolled addition of water.

10.5 Incompatible materials
Strong bases, organic materials, metals, hydrogen sulphide, carbides, alcohols, organic solvents, cyanides, sulphides..

10.6 Hazardous decomposition products
No hazardous decomposition if stored and handled correctly. Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). Thermal decomposition releases corrosive gases/vapours (NOx).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (Dermal)	Not classified
Acute toxicity (Respiratory)	Toxic if inhaled, Category 3

Nitric acid ≥ 65 %	
LC50 inhalation (vapour)	2.65 mg/l

Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified (Ames test; salmonella typhimurium: Negative)
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-SE	Not classified
STOT RE	Not classified
Aspiration hazard	Not classified

11.2 Additional Information
Endocrine disrupting properties
This substance/mixture does not contain components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Ecology - general	Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

12.2 Persistence and degradability

12.3 Bioaccumulative potential

12.4 Mobility

Mobile in the environment due to its water solubility.

Nitric Acid 65%

12.5 Results of PBT and vPvB assessment

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

12.6 Endocrine disrupting properties

Assessment This substance/mixture does not contain components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 Other adverse effects

Biological effects:

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Does not cause biological oxygen deficit.

Hazard for drinking water supplies.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods: Product and packaging:

The generation of waste should be avoided or minimised wherever possible. This material and packaging must be disposed of in a safe way in consultation with licensed waste disposal company in accordance with local legal requirements.

SECTION 14: TRANSPORT INFORMATION

In accordance with ADR / IMDG / IATA

	ADR	IMDG	IATA	Class Diamond
UN Number	2031	2031	2031	
Proper Shipping Name	NITRIC ACID	NITRIC ACID	NITRIC ACID	
Hazard Class	8	8	8	
Subsidiary hazard class	5.1	5.1	5.1	
Packing Group	II	II	II	
Marine pollutant	No	No	No	

Limited/Excepted quantity: 1L

Passenger Aircraft: Not permitted for transport.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use:

This product does contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006. Regulation (EU) 2019/1148 on the marketing and use of explosives precursors: nitric acid.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : No restrictions.

National Regulations:

Occupational Health and Safety Act 85 of 1993.

Hazardous Chemical Agents Regulations.

SANS 10228, 10229, 10232-4.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Full text of R-, H- and EUH-statements:

Oxid. Liq. Cat 3, H272	Oxidising liquid, Category 3, May intensify fire-oxidiser
Met.Cor. 1A, H290	Metal corrosion Category 1A, May cause metal corrosion.
Sk cor. Cat 1A, H314	Skin corrosion, Category 1A, Causes seveverskin burns and eye damage.
Eye Dam 1 H318	Eye damage Category 1, Causes serius eye damage.

Nitric Acid 65%

Ac tox Inhal, Cat 3, H331Mist/aerosol)	Acute toxicity, Inhalation, Category 3, Toxic if inhaled (mist aerosol).
WEL STEL	Workplace Exposure Limit; Short term Exposure Limit
TWA	Time weighted average
STOT-SE	Specific Target Organ Toxicity- Single Exposure
STOT-RE	Specific Target Organ Toxicity- Repeated Exposure

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Revision history	Changes	Date
Revision 2.0	Original document.	31-05-2024