

SECTION 1: Identification

1.1. Product identifier

Trade name	: NITRIC ACID \geq 55%
EC-No.	: 231-714-2
EC Index-No.	: 007-004-00-1
CAS-No.	: 7697-37-2
UN-No. (ADR)	: 2031
Product code	: 114030xxx, 114040xxx, 114050xxx, 114060xxx
Formula	: HNO ₃

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

Recommended uses and restrictions	: For laboratory use only
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1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

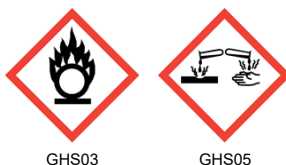
Classification according to the United Nations GHS

Oxidising Liquids, Category 2	H272
Skin corrosion/irritation, Category 1	H314
Full text of H statements	: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



Signal word (GHS-ZA)	: Danger
Hazard statements (GHS-ZA)	: H272 - May intensify fire; oxidiser. H314 - Causes severe skin burns and eye damage.
Precautionary statements (GHS-ZA)	: 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. P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face 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/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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 or doctor. P321 - Specific treatment (see supplemental first aid instruction on this label). P363 - Wash contaminated clothing before reuse. P370+P378 - In case of fire: Use media other than water to extinguish. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: May intensify fire; oxidiser, Causes severe skin burns and eye damage.
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NITRIC ACID ≥ 55%

Safety Data Sheet

According to SANS 10234:2019 and SANS 11014:2010

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
nitric acid (Main constituent)	(CAS-No.) 7697-37-2	≥ 55	Ox. Liq. 2, H272 Skin Corr. 1, H314

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Immediately consult a doctor/medical service. Doctor: administration of corticoid spray.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Cover eyes aseptically. Take victim to an ophthalmologist. 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 with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.html). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: Dry/sore throat. Coughing. Corrosion of the upper respiratory tract. FOLLOWING SYMPTOMS MAY APPEAR LATER: Respiratory difficulties. Possible inflammation of the respiratory tract. Risk of lung oedema. Blue/grey discolouration of the skin.
Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin. Burns.
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Serious damage to eyes.
Symptoms/effects after ingestion	: Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Burns.
Chronic symptoms	: No effects known.
Potential adverse human health effects and symptoms	: Causes severe skin burns. Corrosive to the respiratory tract. Causes serious eye damage.

4.3. Indication 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 for surrounding fires. Water spray. Dry powder. Foam. Carbon dioxide.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard". May intensify fire; oxidiser.
Explosion hazard	: INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: On heating/burning: release of toxic and corrosive gases/vapours (nitrous vapours).

5.3. Advice for firefighters

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. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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According to SANS 10234:2019 and SANS 11014:2010

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Protective equipment : Gas-tight suit. Corrosion-proof suit.
Emergency procedures : Ventilate spillage area. Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. No naked flames. Corrosion-proof appliances. Keep containers closed. Wash contaminated clothes. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Compressed air/oxygen apparatus. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Do not take up in combustible material such as: saw dust. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Spill must not return in its original container. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Observe very strict hygiene - avoid contact. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dark area. Ventilation at floor level. Keep locked up. Provide for a tub to collect spills. Keep only in the original container. Store only in a limited quantity. Meet the legal requirements.

Incompatible materials : May be corrosive to metals. May be corrosive to metals. combustible materials.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) bases. cellulosic materials. organic materials. metals.

Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: glass. MATERIAL TO AVOID: stainless steel. aluminium. synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

NITRIC ACID ≥ 55% (7697-37-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Nitric acid
OEL TWA (mg/m ³)	5 mg/m ³
OEL TWA (ppm)	2 ppm
OEL STEL (mg/m ³)	10 mg/m ³

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According to SANS 10234:2019 and SANS 11014:2010

NITRIC ACID \geq 55% (7697-37-2)	
OEL STEL (ppm)	4 ppm
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing : GIVE EXCELLENT RESISTANCE: butyl rubber. GIVE GOOD RESISTANCE: PVC. GIVE LESS RESISTANCE: polyethylene/ethylenevinylalcohol. GIVE POOR RESISTANCE: chloroprene rubber. natural rubber. nitrile rubber. polyethylene. PVA. natural fibres

Hand protection : Gloves

Eye protection : Safety glasses

Skin and body protection : Head/neck protection. Corrosion-proof clothing

Respiratory protection : Full face mask with filter type B at conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Molecular mass : 63.01 g/mol

Colour : Colourless.

Odour : Irritating/pungent odour. Asphyxiating odour.

Odour threshold : No data available

pH : 1 (6 %)

pH solution : No data available

Relative evaporation rate (butylacetate=1) : No data available

Relative evaporation rate (ether=1) : No data available

Melting point : -38 – -18 °C

Freezing point : No data available

Boiling point : 104 – 122 °C

Flash point : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : No data available

Flammability (solid, gas) : Not applicable

Vapour pressure : 9.4 – 20 hPa

Vapour pressure at 50 °C : No data available

Relative vapour density at 20 °C : 2.2

Relative density : 1.1 – 1.4

Relative density of saturated gas/air mixture : 1

Density : 1120 – 1420 kg/m³

Relative gas density : No data available

Solubility : Exothermically soluble in water. Soluble in ether.
Water: complete

Partition coefficient n-octanol/water (Log Pow) : No data available

Partition coefficient n-octanol/water (Log Kow) : No data available

Viscosity, kinematic : No data available

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Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

VOC content	: Not applicable (inorganic)
Other properties	: Gas/vapour heavier than air at 20°C. Producing fumes/mist. Physical properties depending on the concentration. Acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Violent to explosive reaction with many compounds e.g.: with (strong) reducers, with (some) bases, with organic material and with combustible materials with risk of spontaneous ignition. Reacts violently with (some) metals. Concentrated solution reacts exothermically with water (moisture). May intensify fire; oxidiser.

10.2. Chemical stability

Unstable on exposure to light.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Decomposes slowly on exposure to light: release of toxic and corrosive gases/vapours (nitrous vapours). Violent to explosive reaction with (some) metal powders: release of highly flammable gases/vapours (hydrogen).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns. pH: 1 (6 %)
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 1 (6 %)
Respiratory or skin sensitisation	: 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
Potential adverse human health effects and symptoms	: Causes severe skin burns. Corrosive to the respiratory tract. Causes serious eye damage.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Before neutralisation, the product may represent a danger to aquatic organisms.
Ecology - air	: None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Slightly harmful to crustacea. Harmful to fishes. Acute toxicity algae or other aquatic plants: insufficient data available. May cause eutrophication. pH shift.

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Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

12.2. Persistence and degradability

NITRIC ACID ≥ 55% (7697-37-2)

Persistence and degradability : Biodegradability: not applicable.

12.3. Bioaccumulative potential

NITRIC ACID ≥ 55% (7697-37-2)

Bioaccumulative potential : Not bioaccumulative.

12.4. Mobility in soil

NITRIC ACID ≥ 55% (7697-37-2)

Mobility in soil : No additional information available

Ecology - soil : No (test)data on mobility of the components available.

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods




Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Treat using the best available techniques before discharge into drains or the aquatic environment. 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. Recycle/reuse. Remove to an authorized dump (Class I). Remove for physico-chemical/biological treatment.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
2031	2031	2031
14.2. Proper Shipping Name		
NITRIC ACID	NITRIC ACID	Nitric acid
14.3. Transport hazard class(es)		
8	8	8
		 Not applicable
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN) : Subject to the provisions

Limited quantities (SANS) : 1 L

Limited quantities (SANS) : 1 L

Packagings, large packagings and IBCs : P001, IBC02

Packing instructions (SANS)

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According to SANS 10234:2019 and SANS 11014:2010

Packagings, large packagings and IBCs Special packing instructions (SANS) : PP81, B15

Portable tank and bulk containers instructions (SANS) : T8

Portable tank and bulk container special provisions (SANS) : TP2

- IMDG

Transport regulations (IMDG) : Subject to the provisions

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

Special packing provisions (IMDG) : PP81

IBC packing instructions (IMDG) : IBC02

IBC special provisions (IMDG) : B15, B20

Tank instructions (IMDG) : T8

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES

Stowage category (IMDG) : D

Properties and observations (IMDG) : Colourless liquid.Oxidant; may cause fire in contact with organic materials such as wood, cotton or straw, evolving highly toxic gases (brown fumes). Highly corrosive to most metals. Causes severe burns to skin, eyes and mucous membranes.

- IATA

Transport regulations (IATA) : Subject to the provisions

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) : Forbidden

PCA limited quantity max net quantity (IATA) : Forbidden

PCA packing instructions (IATA) : Forbidden

PCA max net quantity (IATA) : Forbidden

CAO packing instructions (IATA) : 855

CAO max net quantity (IATA) : 30L

Special provisions (IATA) : A212

ERG code (IATA) : 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012;SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 12/02/2020

Revision date : 12/02/2025

Full text of H-statements:

H272	May intensify fire; oxidiser.
H314	Causes severe skin burns and eye damage.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.