

Australian statement of hazardous nature: Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name Nitric acid S.G. 1.42 (70%)

CAS No 7697-37-2

Product Code N/2277/08

Address ThermoFisher Scientific Australia Pty Ltd

5 Caribbean Drive, Scoresby VICTORIA 3179, Australia

Emergency Tel. CHEMTREC®

03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers Tel: 1300 735 292

Fax: 1800 067 639

E-mail address ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product contains one or more substance(s) listed on the voluntary

National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

Oxidizing liquids Category 3
Substances/mixtures corrosive to metal Category 1

Health hazards

Acute Inhalation Toxicity - Vapors

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Category 1

Category 1

Environmental hazards

No hazards identified

Label Elements

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Flame Over Circle

Skull and Crossbones

Signal Word

Danger

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

AUH071 - Corrosive to the respiratory tract

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

P234 - Keep only in original packaging

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

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

P284 - Wear respiratory 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 or 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

P363 - Wash contaminated clothing before reuse

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P390 - Absorb spillage to prevent material damage

P402 - Store in a dry place

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P406 - Store in corrosion resistant polypropylene container with a resistant inliner

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %		
Nitric acid% [C ≤ 70 %]	7697-37-2	65-70		
Water	7732-18-5	30-35		

Section 4 - First Aid Measures

Inhalation

If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh

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air. Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to

the delicate tissue and danger of perforation

Notes to Physician Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat

symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Hazardous Decomposition Products

Nitrogen oxides (NOx), Thermal decomposition can lead to release of irritating gases and vapors.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).

Special protective equipment and precautions for fire fighters

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.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Refer to protective measures listed in Sections 7 and 8

Environmental Precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Clean-up methods - small spillage

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable

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containers for disposal.

Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near combustible materials. Corrosives area. Do not store in metal containers. Keep in properly labeled containers.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)] Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace. UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

С	Component	Australia	New Zealand WEL	The United Kingdom	Germany	
Nitric	c acid% [C ≤	id% [C ≤ STEL: 4 ppm TWA: 2 ppm		TWA: 2 ppm	STEL: 1 ppm 15 min	TWA: 1 ppm (8
	70 %]	STEL: 10 mg/m ³	TWA: 5.2 mg/m ³	STEL: 4 ppm	STEL: 2.6 mg/m ³ 15 min	Stunden). AGW -
		TWA: 2 ppm	STEL: 4 ppm			TWA: 2.6 mg/m ³ (8
		TWA: 5.2 mg/m ³	STEL: 10 mg/m ³			Stunden). AGW -

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial

applications)

Hand Protection Protective gloves

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Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Neoprene gloves	> 480 minutes	0.45 mm	AS/NZS 2161	As tested under EN374-3 Determination of
Butyl rubber	> 480 minutes	0.56 mm		Resistance to Permeation by Chemicals
Viton (R)	> 480 minutes	0.7 mm		

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Repiratory ProtectionUse an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

and maintenance of repiratory protective devices

Recommended Filter type: Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to

EN14387 (or AUS/NZ equivalent)

Recommended half mask:- Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

Hygiene MeasuresWhen using do not eat, drink or smoke. Remove and wash contaminated clothing and

gloves, including the inside, before re-use. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before

re-use. Wear suitable gloves and eye/face protection.

Environmental exposure controls Prevent product from entering drains.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Clear Colorless Light yellow

Physical State Liquid

Odor Strong Acrid
Odor Threshold No data available

pH 1.0 (0.1M)

Melting Point/Range-42 °C / -43.6 °FSoftening PointNo data availableBoiling Point/Range122 °C / 251.6 °F

Flash Point Not applicable Method - No information available

Evaporation Rate No information available

Flammability (solid,gas) Not applicable Liquid

Explosion Limits No data available

Vapor PressureNo data availableVapor DensityNo data available

Vapor Density No data available (Air = 1.0)

Specific Gravity / Density 1.42

Bulk Density Not applicable Liquid

Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow Nitric acid ...% [C \leq 70 %] -2.3

Autoignition Temperature No data available Decomposition Temperature No data available

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Viscosity
No data available
Explosive Properties
No information available

Oxidizing Properties Oxidizer

Other information

Section 10 - Stability and Reactivity

Reactivity Yes

Stability Oxidizer: Contact with combustible/organic material may cause fire.

Conditions to Avoid Incompatible products, Combustible material, Excess heat, Exposure to air or moisture over

prolonged periods.

Incompatible Materials Strong bases, Reducing Agent, Aldehydes, Alcohols, Cyanides, Metals, Finely powdered

metals, Organic materials, Ammonia, Combustible material, Strong reducing agents.

Hazardous Decomposition Products Nitrogen oxides (NOx). Thermal decomposition can lead to release of irritating gases and

vapors.

Hazardous Polymerization Hazardous polymerization does not occur.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met

Dermal Based on available data, the classification criteria are not met

Inhalation Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid% [C ≤ 70 %]			LC50 = 2500 ppm. (Rat) 1h
Water	-	-	-

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

RespiratorySkin
Based on available data, the classification criteria are not met
Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

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Based on available data, the classification criteria are not met (i) STOT-repeated exposure;

None known. **Target Organs**

(j) aspiration hazard; Based on available data, the classification criteria are not met

delaved

Symptoms / effects, both acute and Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Section 12 - Ecological Information

Ecotoxicity effects Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

Contains a substance which is:. Harmful to aquatic organisms. The product contains

following substances which are hazardous for the environment.

Persistence and Degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available, Miscible with

Degradation in sewage treatment plant

No inhibition of bacteria is expected if properly introduced into a biological treatment facility. Neutralization is normally necessary before waste water is discharged into water treatment plants. Contains substances known to be hazardous to the environment or not degradable

in waste water treatment plants.

Bioaccumulation is unlikely Bioaccumulation is unlikely **Bioaccumulative Potential**

Component	log Pow	Bioconcentration factor (BCF)					
Nitric acid% [C ≤ 70 %]	-2.3	No data available					
Mobility	The product is water soluble, and may spread in water systems. : Will likely be mobile in						
	the environment due to its water solubility Highly mobile in soils						
Endocrine Disruptor Information	ndocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors						
Persistent Organic Pollutant This product does not contain any known or suspected substance							
Ozone Depletion Potential	This product does not contain any known or suspected substance						

Section 13 - Disposal Considerations

Waste from Residues/Unused

Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure

conformity with all applicable regulations.

Contaminated Packaging Do not reuse empty containers. Dispose of this container to hazardous or special waste

collection point.

Other Information Chemical wastes should be disposed through a licensed commercial waste collection

> service. Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer, Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Solutions with low pH-value must be neutralized

before discharge.

Section 14 - Transport Information

IMDG/IMO

UN2031 **UN-No Proper Shipping Name** NITRIC ACID

Hazard Class Subsidiary Hazard Class 5.1 **Packing Group**

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ADG

UN-No UN2031
Proper Shipping Name NITRIC ACID

Hazard Class 8
Subsidiary Hazard Class 5.1
Packing Group ||

Component	Hazchem Code
Nitric acid% [C ≤ 70 %]	2R
7697-37-2 (65-70)	2P
	2PE

IATA

UN-No UN2031
Proper Shipping Name UN2031
NITRIC ACID

Hazard Class 8
Subsidiary Hazard Class 5.1
Packing Group ||

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

	Component	Standard for the Uniform Scheduling of Medicines and Poisons
ſ	Nitric acid% [C ≤ 70 %] - 7697-37-2	Schedule 5 listed - except its salts and derivatives; in preparations except in preparations containing
١		<=0.5% of Nitric acid
١		Schedule 6 listed - except its salts and derivatives; except when included in Schedule 5, or in
-		preparations containing <=0.5% of Nitric acid

Australian Industrial Chemicals Introduction Scheme (AICIS)

	Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
	Nitric acid% [C ≤ 70 %] - 7697-37-2	Present	-
Ī	Water - 7732-18-5	Present	-

Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

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Component	Australian - Illicit Drug Precursors/Reagents Substance List	Chemicals of Security Concern
Nitric acid% [C ≤ 70 %] - 7697-37-2		Listed in Appendix A
		Precursors to homemade explosives -
		concentration >=30%

Legend

Chemicals of Security Concern - for further information see http://www.chemicalsecurity.gov.au/securityconcerns

National pollutant inventory Subject to reporting requirements

Component	National pollutant inventory
Nitric acid% [C ≤ 70 %] - 7697-37-2	10 tonne/yr. Threshold category 1

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Nitric acid% [C ≤ 70	X	X	231-714-2	-	X	Х	-	Х	Х	Χ	Х	KE-25911
%]												
Water	Х	Х	231-791-2	-	Х	X	-	X	Х		Х	KE-35400

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories
		of Wastes to Be Controlled
Nitric acid% [C ≤ 70 %] - 7697-37-2	Annex I - Y34	Y34 solid or solution

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Nitric acid% [C ≤ 70 %]	7697-37-2	Listed	Not applicable	Not applicable	Not applicable
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable

Authorisation/Restrictions according to EU REACH

- Component NEACH (1301/2000) - Annex XIV - NEACH (1301/2000) - Annex XVII - NEACH Regulation (EC		Component	REACH (1907/2006) - Annex XIV -	REACH (1907/2006) - Annex XVII -	REACH Regulation (EC
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	Substances Subject to Authorization	Restrictions on Certain Dangerous Substances	1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Nitric acid% [C ≤ 70 %]	-	Use restricted. See item 75. (see link for restriction details)	-

https://echa.europa.eu/substances-restricted-under-reach

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

NZS 5433:2012 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% WEL - Workplace Exposure Limit DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water **vPvB** - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

Substances/EU List of Notified Chemical Substances **ENCS** - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

angerous Goods Code

ADG Australian Code for the Transport of Dangerous Goods by Road and Rail

OECD - Organisation for Economic Co-operation and Development **LC50** - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment
NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Revision Date 18-Nov-2022 Revision Summary Not applicable.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

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