Rowe Scientific Multi-element metal standards in hydrochloric and nitric acid matrix

ROWE SCIENTIFIC

Chemwatch: 5218-18

Chemwatch Hazard Alert Code: 3

Issue Date: **26/05/2022** Print Date: **27/05/2022** S.GHS.AUS.EN

Version No: **7.1**Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier	
Product name	Rowe Scientific Multi-element metal standards in hydrochloric and nitric acid matrix
Chemical Name	Not Applicable
Synonyms	CG0008, CG0009, CG0010, CG0011, CG0013, CG0014, CG0015, CG0016, CG0017, CG0248, CG0249, CG0271, CG0293, CG0295, CG0296, CG0302, CM0064, CM0065, CM0066, CM0067, CM0068, CM0069, CM0070, CM0071, CM0072, CM0073, CM0074, CS4036, CS4109, CS4110, CS4111, CS4112, CS4113, CS4114, CS4115, CS4116, CS4117, CS4118, CS4119, CS4130, CS4140
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid)
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Details of the supplier of the safety data sheet

Registered company name	ROWE SCIENTIFIC
Address	11 Challenge Boulevard Wangara WA 6065 Australia
Telephone	+61 8 9302 1911
Fax	+61 8 9302 1905
Website	http://rowe.com.au/
Email	rowewa@rowe.com.au

Emergency telephone number

Association / Organisation	ROWE SCIENTIFIC	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	+61 8 9302 1911 (24 Hrs)	+61 1800 951 288
Other emergency telephone numbers	Not Available	+61 3 9573 3188

Once connected and if the message is not in your prefered language then please dial 01

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule	S6
Classification ^[1]	Corrosive to Metals Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Repeated Exposure Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)





Signal word Danger

Hazard statement(s)

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.

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P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P234	Keep only in original packaging.

Precautionary statement(s) Response

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].
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/doctor/physician/first aider.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.

Precautionary statement(s) Storage

P405 Store locked up.

Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7697-37-2	1-10	nitric acid
7647-01-0	1-20	hydrochloric acid
Not Available	<1	gold, copper, silver and iron
7732-18-5	>60	water
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available	

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Immediately hold eyelids apart and flush the eye continuously with running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor, without delay.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to strong acids:

- ▶ Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues. INGESTION:
- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- ▶ DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- ▶ Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.

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- ▶ Charcoal has no place in acid management.
- ▶ Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 Firefighting measures

Extinguishing media

- Water spray or fog.
- ► Foam.
- Dry chemical powder.
- ► BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire In	ncompatibility
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Facacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

Advice for firefighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area
- Do not approach containers suspected to be hot
- ▶ Cool fire exposed containers with water spray from a protected location.

Fire/Explosion Hazard

- Non combustible. Not considered to be a significant fire risk.
- Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- May emit corrosive, poisonous fumes. May emit acrid smoke.

Decomposition may produce toxic fumes of:

nitrogen oxides (NOx)

chlorides

metal oxides

HAZCHEM

2X

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	 Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

	Avoid all personal contact, including inhalation
	Avoid ali personal contact, including innalatio

Safe handling

- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.

Stop leak if safe to do so.

- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
- Avoid smoking, naked lights or ignition sources
- Avoid contact with incompatible materials.

Contain spill with sand, earth or vermiculite.

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Other information

- Store in original containers.
- Keep containers securely sealed.
- ► Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers
- ▶ Protect containers against physical damage and check regularly for leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Glass container is suitable for laboratory quantities
- ► Polyethylene or polypropylene container.
- ► Check all containers are clearly labelled and free from leaks.

Storage incompatibility

- ▶ Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.
- ▶ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	nitric acid	Nitric acid	2 ppm / 5.2 mg/m3	10 mg/m3 / 4 ppm	Not Available	Not Available
Australia Exposure Standards	hydrochloric acid	Hydrogen chloride	Not Available	Not Available	5 ppm / 7.5 mg/m3	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
nitric acid	Not Available	Not Available	Not Available
hydrochloric acid	Not Available	Not Available	Not Available
hydrochloric acid	1.8 ppm	22 ppm	100 ppm

Ingredient	Original IDLH	Revised IDLH
nitric acid	25 ppm	Not Available
hydrochloric acid	50 ppm	Not Available
water	Not Available	Not Available

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Personal protection









- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes

Eye and face protection

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available.

 Skin protection
 See Hand protection below

 Hands/feet protection
 Wear chemical protective gloves, e.g. PVC. Wear safety footwear.

 Body protection
 See Other protection below

Overalls.

Other protection

- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the *computer-generated* selection:

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Material	СРІ

Respiratory protection

Type BE-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum	Half-Face	Full-Face	Powered Air
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Respirator	Respirator
-	BE-PAPR-AUS /

BE-AUS / Class

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BUTYL	A
NEOPRENE	Α
BUTYL/NEOPRENE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	С
PVA	С
PVC	С
SARANEX-23	С
VITON	С
VITON/NEOPRENE	С

up to 50 x ES - BE-AUS / Class 1 P2 - I P2 - BE-2 P2 BE-PAPR-2 P2 ^

Respirator

BE-AUS P2

Protection Factor

up to 10 x ES

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- * CPI Chemwatch Performance Index
- A: Best Selection
- B: Satisfactory; may degrade after 4 hours continuous immersion
- C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear, colourless, acidic liquid; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	>1
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	<1	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (Not Available%)	Not Available
Vapour density (Air = 1)	>1	VOC g/L	Not Applicable

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur. Contact with alkaline material liberates heat
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

^{^ -} Full-face

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Information	on	toxico	logical	effects
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Inhaled					
	Corrosive acids can cause irritation of the respiratory theadache, nausea and weakness.	ract, with coughing, choking and muc	cous membrane damage. There may be dizziness,		
Ingestion	Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.				
Skin Contact	Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Skin contact with nitric acid may cause corrosion, skin thickening, yellow discolouration of the skin, blisters and scars depending on the concentration exposed. The material may accentuate any pre-existing skin condition				
Eye	Direct eye contact with acid corrosives may produce p and completely.	ain, tears, sensitivity to light and burn	s. Mild burns of the epithelia generally recover rapidly		
Chronic	Repeated or prolonged exposure to acids may result in with cough, and inflammation of lung tissue often occur		r ulceration of mouth lining. Irritation of airways to lung,		
Rowe Scientific Multi-element metal standards in	TOXICITY	IRRITATION			
hydrochloric and nitric acid matrix	Not Available	Not Available			
	тохісіту	IRRITATION			
nitric acid	Inhalation(Rat) LC50; 0.13 mg/L4h ^[2]	Eye: adverse eff	rect observed (irritating)[1]		
			fect observed (corrosive) ^[1]		
	TOXICITY	IRRITATION			
	dermal (mouse) LD50: 1449 mg/kg ^[2]	Eye (rabbit): 5m	g/30s - mild		
hydrochloric acid	Oral (Rat) LD50; 900 mg/kg ^[2]	Eye: adverse eff	fect observed (irritating) ^[1]		
·			fect observed (corrosive) ^[1]		
		Skin: adverse ef	fect observed (irritating) ^[1]		
	TOXICITY	IRRITATION			
water	Oral (Rat) LD50; >90000 mg/kg ^[2]	Not Available			
Legend:		Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances			
NITRIC ACID	Oral (?) LD50: 50-500 mg/kg * [Various Manufacturers The material may produce severe irritation to the eye of produce conjunctivitis. The material may produce respiratory tract irritation, and The material may cause severe skin irritation after proproduction of vesicles, scaling and thickening of the skening of the skening and thickening of the skening of the ske	causing pronounced inflammation. Re and result in damage to the lung include longed or repeated exposure and ma	ding reduced lung function. y produce on contact skin redness, swelling, the		
HYDROCHLORIC ACID	The material may be irritating to the eye, with prolonge conjunctivitis. The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limi		eated or prolonged exposure to irritants may produce		
NITRIC ACID & HYDROCHLORIC ACID	Asthma-like symptoms may continue for months or eventhown as reactive airways dysfunction syndrome (RAI criteria for diagnosing RADS include the absence of pull pasthma-like symptoms within minutes to hours of a dolairflow pattern on lung function tests, moderate to sevelymphocytic inflammation, without eosinophilia. RADS the concentration of and duration of exposure to the information of exposure to the information of and duration of exposure to the information of exposure due to high concentrations of irritating For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible.	OS) which can occur after exposure to revious airways disease in a non-atop cumented exposure to the irritant. Othere bronchial hyperreactivity on meth (or asthma) following an irritating inhinitating substance. On the other handing substance (often particles) and is	o high levels of highly irritating compound. Main bic individual, with sudden onset of persistent ner criteria for diagnosis of RADS include a reversible acholine challenge testing, and the lack of minimal alation is an infrequent disorder with rates related to , industrial bronchitis is a disorder that occurs as a completely reversible after exposure ceases.		
	not been examined in this respect. Mucous secretion r protects the stomach lining from the hydrochloric acid	may protect the cells of the airway fro			
HYDROCHLORIC ACID & WATER		nay protect the cells of the airway fro secreted there).			
	protects the stomach lining from the hydrochloric acid	nay protect the cells of the airway fro secreted there).			
WATER	protects the stomach lining from the hydrochloric acid No significant acute toxicological data identified in liter	may protect the cells of the airway fro secreted there). ature search.	m direct exposure to inhaled acidic mists (which also		
WATER Acute Toxicity	protects the stomach lining from the hydrochloric acid No significant acute toxicological data identified in liter	may protect the cells of the airway fro secreted there). ature search. Carcinogenicity	m direct exposure to inhaled acidic mists (which also		
WATER Acute Toxicity Skin Irritation/Corrosion	protects the stomach lining from the hydrochloric acid No significant acute toxicological data identified in liter	may protect the cells of the airway fro secreted there). ature search. Carcinogenicity Reproductivity	m direct exposure to inhaled acidic mists (which also		

Legend:

X − Data either not available or does not fill the criteria for classification
✓ − Data available to make classification

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Toxicity

Rowe Scientific Multi-element	Endpoint	Test Duration (hr)	Species	Value	Source
metal standards in hydrochloric and nitric acid matrix	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	96h	Crustacea	39mg/l	2
nitric acid	LC50	96h	Fish	102.24mg/L	4
	EC50	48h	Crustacea	490mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
hydrochloric acid	EC50(ECx)	9.33h	Fish	0.51mg/L	4
	LC50	96h	Fish	334.734mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
water	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

Prevent, by any means available, spillage from entering drains or water courses. **DO NOT** discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
hydrochloric acid	LOW	LOW	
water	LOW	LOW	

Bioaccumulative potential

Ingredient	Bioaccumulation	
hydrochloric acid	LOW (LogKOW = 0.5392)	

Mobility in soil

Ingredient	Mobility
hydrochloric acid	LOW (KOC = 14.3)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Treat and neutralise at an effluent treatment plant.
- Use soda ash or slaked lime to neutralise.
- ▶ Recycle containers, otherwise dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required



Marine Pollutant	NO
HAZCHEM	2X

Land transport (ADG)

UN number	3264	
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid)	
Transport hazard class(es)	Class 8 Subrisk Not Applicable	
Packing group	III	
Environmental hazard	Not Applicable	

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Special precautions for user

Special provisions	223 274
Limited quantity	5 L

Air transport (ICAO-IATA / DGR)

transport (IOAO IAIA / DOI	• 7			
UN number	3264			
UN proper shipping name	Corrosive liquid, acidic, i	inorganic, n.o.s. * (contains nitric acid)		
	ICAO/IATA Class	8		
Transport hazard class(es)	ICAO / IATA Subrisk Not Applicable			
	ERG Code	8L		
Packing group	Ш			
Environmental hazard	Not Applicable			
	Special provisions		A3 A803	
	Cargo Only Packing Ir	nstructions	856	
	Cargo Only Maximum	Qty / Pack	60 L	
Special precautions for user	Passenger and Cargo	Packing Instructions	852	
	Passenger and Cargo	Maximum Qty / Pack	5 L	
	Passenger and Cargo	Limited Quantity Packing Instructions	Y841	
	Passenger and Cargo Limited Maximum Qty / Pack		1 L	

Sea transport (IMDG-Code / GGVSee)

UN number	3264		
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid)		
Transport hazard class(es)	IMDG Class 8 IMDG Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Not Applicable		
Special precautions for user	EMS Number F-A, S-B Special provisions 223 274 Limited Quantities 5 L		

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
nitric acid	Not Available
hydrochloric acid	Not Available
water	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
nitric acid	Not Available
hydrochloric acid	Not Available
water	Not Available

SECTION 15 Regulatory information

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

nitric acid is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 5 Australian Inventory of Industrial Chemicals (AIIC)

hydrochloric acid is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule ${\bf 6}$

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

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Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (nitric acid; hydrochloric acid; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	26/05/2022
Initial Date	24/07/2016

SDS Version Summary

Version	Date of Update	Sections Updated
6.1	03/09/2020	Classification change due to full database hazard calculation/update.
7.1	26/05/2022	Classification

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit,

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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Rowe Scientific Multi-element metal standards in hydrochloric and nitric acid matrix

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