ROWE SCIENTIFIC

Chemwatch: 18-8435

Version No: 16.1.1.1 Safety Data Sheet according to WHS and ADG requirements

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Rowe Scientific Multi and single element metal standards		
Synonyms	CB3568; Cl0217; Cl0218; Cl0219; Cl2157; CL2003; CL2004; CN0360; CN0390; CN0395; CN2255; CN2260; CN2261; CQ0216; CQ0217; CQ4016; CQ4020; CQ4021; CS4410; CS4430; CS8566; CS8567; CS8568; CS8569; CS8565; CW0050		
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid)		
Other means of identification	Not Available		
Relevant identified uses of the substance or mixture and uses advised against			
Relevant identified uses	Laboratory chemical.		

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
Emergency telephone numbers	+61 8 9302 1911 (24 Hrs)
Other emergency telephone numbers	Not Available

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	S5	
Classification ^[1]	Metal Corrosion Category 1, Acute Toxicity (Inhalation) Category 2, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	

Label elements



DANGER	
May be corrosive to metals.	
Fatal if inhaled.	
Causes severe skin burns and eye damage.	
evention	
Do not breathe mist/vapours/spray.	
Use only outdoors or in a well-ventilated area.	
Wear protective gloves/protective clothing/eye protection/face protection.	
Keep only in original container.	
Wear respiratory protection.	

Chemwatch Hazard Alert Code: 3

Issue Date: 21/11/2019 Print Date: 03/12/2019 S.GHS.AUS.EN

Precautionary statement(s) Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.	
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.	
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position 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/physician.	
P320	Specific treatment is urgent (see advice on this label).	
P363	Wash contaminated clothing before reuse.	
P390	Absorb spillage to prevent material damage.	

Precautionary statement(s) Storage

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7697-37-2	1-5	nitric acid
Not Available	<=1	containing one or more of
Not Available		nickel, copper, cobalt, chromium, iron, zinc, manganese,
Not Available		aluminium, calcium, silicon, phosphorus, magnesium
Not Available		barium, strontium, ytterbium, sodium and lithium
7732-18-5	>60	water

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. Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)
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 aspiratio 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

Treat symptomatically.

- 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.
- 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 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 Incompatibility	None known.		
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. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use. 		
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. Decomposes on heating and produces toxic fumes of: nitrogen oxides (NOx)		
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	 Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. Check regularly for spills and leaks. 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. Consider evacuation (or protect in place). Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Neutralise/decontaminate residue (see Section 13 for specific agent). Collect solid residues and seal in labelled drums for disposal.

- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
 If contamination of drains or waterways occurs, advise emergency services.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling		
Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. 	
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 Lined metal can, lined metal pail/ can. Plastic pail. Polyliner drum. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	 Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0. Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces. The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat. The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid. Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Inorganic acids react with cyanide compounds to release gaseous hydrogen cyanide. Inorganic acids generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and even carbonates. Acids often catalyse (increase the rate of) chemical reactions. Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.



Х - Must not be stored together

0 - May be stored together with specific preventions

- May be stored together +

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

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3	
nitric acid	Nitric acid	Not Available	Not Available	Not Available	
Ingredient	Original IDLH		Revised IDLH		
nitric acid	25 ppm		Not Available		
water	Not Available		Not Available		

Appropriate engineering controls	Use in a well-ventilated area General exhaust is adequate under normal operating conditions.
Personal protection	
Eye and face protection	 Chemical goggles. Full face shield may be required for supplementary but never for primary protection of eyes. 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. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See Hand protection below
Hands/feet protection	 Wear chemical protective gloves, e.g. PVC. Wear steely totwear or safety gumbors, e.g. Rubber When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent). When only brief contact is expected, a glove with a protection class of 5 or higher (breakthrough time greater than 420 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. Contaminated gloves should be replaced. As defined in ASTM F-739-86 in any application, gloves are rated as: Excellent when breakthrough time
Body protection	See Other protection below
Other protection	 Overalls. 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:

Rowe Scientific Multi and single element metal standards

Material	CPI
BUTYL	A
NEOPRENE	А
HYPALON	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE/NATURAL	С

Respiratory protection

Type E-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 Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	E-AUS P2	-	E-PAPR-AUS / Class 1 P2
up to 50 x ES	-	E-AUS / Class 1 P2	-
up to 100 x ES	-	E-2 P2	E-PAPR-2 P2 ^

NITRILE+PVC	С
PE/EVAL/PE	С
PVA	С
PVC	С
SARANEX-23	С
VITON	С

* 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.

Appearance Corrosive acidic liquid; mixes with water.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

^ - Full-face

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 = (NH3)Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature	Not Applicable
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 (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Applicable

SECTION 10 STABILITY AND REACTIVITY

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

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following 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	The material can produce chemical burns following direct contact with the skin. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Skin contact with nitric acid may cause corrosion, skin thickening, yellow discolouration of the skin, blisters and scars depending on the concentration exposed.

Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.				
Chronic	Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs.				
Rowe Scientific Multi and	ΤΟΧΙΟΙΤΥ	IRRITATION			
single element metal standards	Not Available	Not Available			
	тохісіту	IRRITATION			
nitric acid	50500 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1]			
	Inhalation (rat) LC50: 0.13 mg/l/4h ^[2]	Skin: adverse effect observed (corrosive) ^[1]			
	ΤΟΧΙΟΙΤΥ	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 				

Rowe Scientific Multi and single element metal standards	None assigned. Refer to individual constituents.				
NITRIC ACID	Asthma-like symptoms may continue for months or ever known as reactive airways dysfunction syndrome (RAD criteria for diagnosing RADS include the absence of pre asthma-like symptoms within minutes to hours of a doct airflow pattern on lung function tests, moderate to sever lymphocytic inflammation, without eosinophilia. RADS (in the concentration of and duration of exposure to the irrit result of exposure due to high concentrations of irritating disorder is characterized by difficulty breathing, cough a For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible not been examined in this respect. Mucous secretion m protects the stomach lining from the hydrochloric acid su The material may produce severe irritation to the eye ca produce conjunctivitis. The material may cause severe skin irritation after prolo production of vesicles, scaling and thickening of the skin Oral (?) LD50: 50-500 mg/kg * [Various Manufacturers]	S) which can occur after exposure to lavious airways disease in a non-atopic umented exposure to the irritant. Othe re bronchial hyperreactivity on methac or asthma) following an irritating inhal ating substance. On the other hand, i g substance (often particles) and is cound mucus production. to genetic damage when the pH falls ay protect the cells of the airway from ecreted there). The airway from the airman pronounced inflammation. Reput d result in damage to the lung including and or repeated exposure and may	high levels of highly irritating compound. Main individual, with sudden onset of persistent r criteria for diagnosis of RADS include a reversible sholine challenge testing, and the lack of minimal ation is an infrequent disorder with rates related to industrial bronchitis is a disorder that occurs as a impletely reversible after exposure ceases. The s to about 6.5. Cells from the respiratory tract have direct exposure to inhaled acidic mists (which also eated or prolonged exposure to irritants may ing reduced lung function. produce on contact skin redness, swelling, the		
WATER	No significant acute toxicological data identified in literation	ture search.			
Acute Toxicity	¥	Carcinogenicity	×		
Skin Irritation/Corrosion	×	Reproductivity	×		
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×		
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×		

Data variable to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Rowe Scientific Multi and	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
single element metal standards	Not Available	Not Available	Not Available	Not Available	Not Available
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
nitric acid	LC50	96	Fish	1-354mg/L	2
nitric acid	EC50	48	Crustacea	490mg/L	2
	NOEC	720	Fish	58mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
water	LC50	96	Fish	897.520mg/L	3
	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
Legend:		, , ,	IA Registered Substances - Ecotoxicological Infor IS EPA, Ecotox database - Aquatic Toxicity Data 5	, ,	

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
water	LOW	LOW
Bioaccumulative potential		
Ingredient	Bioaccumulation	
water	LOW (LogKOW = -1.38)	
Mobility in soil		
Ingredient	Mobility	

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

water

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

Marine Pollutant

Labels Required



LOW (KOC = 14.3)

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
Special precautions for user	Special provisions 223 274 Limited quantity 5 L

Air transport (ICAO-IATA / DGR)

UN number	3264		
UN proper shipping name	Corrosive liquid, acidic, ir	norganic, n.o.s. * (contains nitric acid)	
Transport hazard class(es)	ICAO/IATA Class	8 Not Applicable	
	ERG Code	8L	
Packing group	III		
Environmental hazard	Not Applicable		
	Special provisions		A3 A803
Special precautions for user	Cargo Only Packing Instructions		856
	Cargo Only Maximum Qty / Pack		60 L
	Passenger and Cargo Packing Instructions		852
	Passenger and Cargo Maximum Qty / Pack		5 L
	Passenger and Cargo	Limited Quantity Packing Instructions	Y841

1 L

Passenger and Cargo Limited Maximum Qty / Pack

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 NumberF-A , S-BSpecial provisions223 274Limited Quantities5 L

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

SOURCE	PRODUCT NAME	POLLUTION CATEGORY	SHIP TYPE
	Nitric acid (70% and over) Nitric acid (less than 70%)	YIY	2 2

SECTION 15 REGULATORY INFORMATION

Australia Inventory of Chemical Substances (AICS)

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

NITRIC ACID IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
IMO IBC Code Chapter 17: Summary of minimum requirements
IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
International Air Transport Association (IATA) Dangerous Goods Regulations
International Maritime Dangerous Goods Requirements (IMDG Code)
United Nations Recommendations on the Transport of Dangerous Goods Model
Regulations

IMO IBC Code Chapter 18: List of products to which the Code does not apply

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (water; nitric acid)
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 - ARIPS	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 and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	21/11/2019
Initial Date	03/02/2009

SDS Version Summary

Version	Issue Date	Sections Updated
15.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
16.1.1.1	21/11/2019	Ingredients, Synonyms

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 Limit₀ IDLH: Immediately Dangerous to Life or Health Concentrations OSF: Odour Safety Factor NOAEL: No Observed Adverse Effect Level LOAEL: Lowest 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

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

