

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

RS Components

Chemwatch: 5385-06 Version No: 2.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 2

Issue Date: **08/11/2019**Print Date: **12/11/2019**L.GHS.AUS.EN

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

Product Identifier

Product name	RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)	
Synonyms	Not Available	
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains triethylene glycol dimethacrylate)	
Other means of identification	Not Available	
Relevant identified uses of the substance or mixture and uses advised against		

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

Relevant identified uses Anaerobic threadlocker based on (meth)acrylates.

Details of the supplier of the safety data sheet

Registered company name	RS Components
Address	25 Pavesi Street Smithfield NSW 2164 Australia
Telephone	+1 300 656 636
Fax	+1 300 656 696
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	+61 1800 951 288
Other emergency telephone numbers	+61 2 9186 1132

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

CHEMWATCH HAZARD RATINGS

	Min	Max ı	
Flammability	1		
Toxicity	1		0 = Minimum
Body Contact	2		1 = Low 2 = Moderate
Reactivity	1		3 = High
Chronic	2	į	4 = Extreme

Poisons Schedule	Not Applicable	
Classification [1]	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Skin Sensitizer Category 1, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Specific target organ toxicity - repeated exposure Category 2, Chronic Aquatic Hazard 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)







Chemwatch: **5385-06** Page **2** of **12**

Version No: **2.1.1.1**

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: **08/11/2019**Print Date: **12/11/2019**

SIGNAL WORD	WARNING
Hazard statement(s)	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statement(s) Pre	evention
P201	Obtain special instructions before use.

P201	Obtain special instructions before use.	
P260	Do not breathe mist/vapours/spray.	
P271	Use in a well-ventilated area.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.	
P321	Specific treatment (see advice on this label).	
P362	Take off contaminated clothing and wash before reuse.	
P302+P352	IF ON SKIN: Wash with plenty of water and soap.	

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

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
109-16-0	>50	triethylene glycol dimethacrylate
27813-02-1	1-10	2-hydroxypropyl methacrylate
79-10-7	1-10	acrylic acid
80-15-9	1-10	cumyl hydroperoxide
114-83-0	0.1-1	acetylphenylhydrazine
103671-44-9	0.1-1	N.N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated
99-97-8	<0.1	N,N-dimethyl-p-toluidine

SECTION 4 FIRST AID MEASURES

Description of first aid measures

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Eye Contact	If this product comes in contact with the eyes: • Wash out immediately with fresh 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. • Seek medical attention without delay; if pain persists or recurs seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.	
Skin Contact	If skin or hair contact occurs: Immediately flush body and clothes with large amounts of water, using safety shower if available. Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor.	
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. 	

Chemwatch: **5385-06** Page **3** of **12**

Version No: 2.1.1.1

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: **08/11/2019**Print Date: **12/11/2019**

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

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- Foam
- ► Dry chemical powder.
- ► BCF (where regulations permit).
- ► Carbon dioxide.

Special hazards arising from the substrate or mixture

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Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result		
Advice for firefighters			
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. 		
Fire/Explosion Hazard	 ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. ▶ Heating may cause expansion or decomposition leading to violent rupture of containers. ▶ On combustion, may emit toxic fumes of carbon monoxide (CO). Combustion products include: carbon dioxide (CO2) aldehydes nitrogen oxides (NOx) other pyrolysis products typical of burning organic material. 		
HAZCHEM	•3Z		

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	 Environmental hazard - contain spillage. 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.
Major Spills	 Environmental hazard - contain spillage. 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 all means available, spillage from entering drains or water courses.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Precautions for safe handling	
Safe handling	 Most acrylic monomers have low viscosity therefore pouring, material transfer and processing of these materials do not necessitate heating. Viscous monomers may require heating to facilitate handling. To facilitate product transfer from original containers, product must be heated to no more than 60 deg. C. (140 F.), for not more than 24 hours. DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps.
Other information	 Polymerisation may occur slowly at room temperature. Storage requires stabilising inhibitor content and dissolved oxygen content to be monitored. Refer to manufacturer's recommended levels. DO NOT overfill containers so as to maintain free head space above product. Blanketing or sparging with nitrogen or oxygen free gas will deactivate stabiliser. Store below 38 deg. C. Store in original containers. Keep containers securely sealed.

Version No: **2.1.1.1**

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: **08/11/2019**Print Date: **12/11/2019**

- ▶ No smoking, naked lights or ignition sources.
- ► Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Lined metal can, lined metal pail/ can.
- Plastic pail.
- ▶ Polyliner drum.
- Packing as recommended by manufacturer.
- Polymerisation may occur slowly at room temperature.
- Storage requires stabilising inhibitor content and dissolved oxygen content to be monitored. Refer to manufacturer's recommended levels.
- ► DO NOT overfill containers so as to maintain free head space above product.
- ▶ Blanketing or sparging with nitrogen or oxygen free gas will deactivate stabiliser.

Storage incompatibility

- ► Store below 38 deg. C.
- ▶ Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.

for multifunctional acrylates:

- ▶ Avoid exposure to free radical initiators (peroxides, persulfates), iron, rust, oxidisers, and strong acids and strong bases.
- ► Avoid heat, flame, sunlight, X-rays or ultra-violet radiation.
- ▶ Storage beyond expiration date, may initiate polymerisation. Polymerisation of large quantities may be violent (even explosive)

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	acrylic acid	Acrylic acid	2 ppm / 5.9 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
triethylene glycol dimethacrylate	Methacrylic acid, diester with triethylene glycol; (Polyester TGM3)	33 mg/m3	360 mg/m3	2,100 mg/m3
acrylic acid	Acrylic acid	Not Available	Not Available	Not Available
cumyl hydroperoxide	Cumene hydroperoxide; (Isopropylbenzene hydroperoxide)	0.15 ppm	1.6 ppm	9.7 ppm

Ingredient	Original IDLH	Revised IDLH
triethylene glycol dimethacrylate	Not Available	Not Available
2-hydroxypropyl methacrylate	Not Available	Not Available
acrylic acid	Not Available	Not Available
cumyl hydroperoxide	Not Available	Not Available
acetylphenylhydrazine	Not Available	Not Available
N,N-bis-(2-hydroxyethyl)- p-toluidine ethoxylated	Not Available	Not Available
N,N-dimethyl-p-toluidine	Not Available	Not Available

OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit		
triethylene glycol dimethacrylate	E	≤ 0.1 ppm		
2-hydroxypropyl methacrylate	E	≤ 0.1 ppm		
cumyl hydroperoxide	E	≤ 0.1 ppm		
acetylphenylhydrazine	E	≤ 0.01 mg/m³		
N,N-bis-(2-hydroxyethyl)- p-toluidine ethoxylated	E	≤ 0.1 ppm		
N,N-dimethyl-p-toluidine	E	≤ 0.1 ppm		
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.			

MATERIAL DATA

NOTE D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed on Annex I

When they are placed on the market in a non-stabilised form, the label must state the name of the substance followed by the words "non-stabilised" European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

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.

Issue Date: 08/11/2019 Version No: 2.1.1.1 Print Date: 12/11/2019

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Personal protection









Eye and face protection

- ▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
- ▶ Chemical goggles.whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.

Skin protection

See Hand protection below

▶ Elbow length PVC gloves

NOTE:

- ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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.

General warning: Do NOT use latex gloves! Use only recommended gloves - using the wrong gloves may increase the risk:

	Exposure condition Short time use; (few minutes less than 0.5 hour) Little physical stress	Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm) Excellent tactibility ("feel"), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers
Hands/feet protection	Exposure condition Medium time use; less than 4 hours Physical stress (opening drums, using tools, etc.)	Use of medium thick nitrile rubber gloves Nitrile rubber, NRL (latex) free; <0.45 mm Moderate tactibility ("feel"), powder-free Disposable Moderate price Gives adequate protection for most acrylates up to 4 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour
	Exposure condition Long time Cleaning operations	Nitrile rubber, NRL (latex) free; >0.56 mm low tactibility ("feel"), powder free High price Gives adequate protection for most acrylates in combination with commonly used solvents up to 8 hours Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour Avoid use of ketones and acetates in wash-up solutions.
	Where none of this gloves ensure safe handling ketones use laminated multilayer gloves	(for example in long term handling of acrylates containing high levels of acetates and/ or

Guide to the Classification and Labelling of UV/EB Acrylates Third edition, 231 October 2007 - Cefic

Body protection

See Other protection below

Other protection

- Overalls
- ▶ P.V.C. apron. Barrier cream.

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 $\ \emph{computer-}$ generated selection:

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Material	СРІ
BUTYL	С
PE	С
SARANEX-23	С
TEFLON	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

Respiratory protection

Type AK-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	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2 ^

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

▶ Cartridge respirators should never be used for emergency ingress or in areas of

Chemwatch: 5385-06 Page 6 of 12

Version No: 2.1.1.1 RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS) Issue Date: 08/11/2019 Print Date: 12/11/2019

otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

- unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Green liquid with characteristic odour; does not mix with water.		
Physical state	Liquid	Relative density (Water = 1)	~1.04
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	~5	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	~480.77 @40C
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>100	Taste	Not Available
Evaporation rate	Negligible	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	~0.013 @20C	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

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.
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

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular Inhaled system. No report of respiratory illness in humans as a result of exposure to multifunctional acrylates has been found. Similarly evidence of systemic damage does not appear to exist. Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal Ingestion Ingestion may result in nausea, abdominal irritation, pain and vomiting

Skin Contact

Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. The material may accentuate any pre-existing dermatitis condition

All multifunctional acrylates (MFA) produce skin discomfort and are known or suspected skin sensitisers. Aerosols generated in the industrial process are reported to produce dermatitis - vapours generated by the heat of milling may also occur in sufficient concentration to produce

Chemwatch: 5385-06 Page 7 of 12 Issue Date: 08/11/2019 Version No: 2.1.1.1 Print Date: 12/11/2019

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

dermatitis. Because exposure to industrial aerosols of MFA may also include exposure to various resin systems, photo-initiators, solvents, hydrogen-transfer agents, stabilisers, surfactants, fillers and polymerisation inhibitors, toxic effects may arise due to a range of chemical actions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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. Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals Eve Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva $(conjunctivitis); temporary\ impairment\ of\ vision\ and/or\ other\ transient\ eye\ damage/ulceration\ may\ occur.$ Irritation of the eyes may produce a heavy secretion of tears (lachrymation). Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by Chronic repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or Sensitisation may give severe responses to very low levels of exposure, in situations where exposure may occur. **RS Pro Anaerobic** TOXICITY IRRITATION Threadlocker High Strength Not Available Not Available #918-6894 (AUS) TOXICITY IRRITATION triethylene glycol dermal (mouse) LD50: >2000 mg/kg^[1] Eye: no adverse effect observed (not irritating)[1]dimethacrylate Skin: no adverse effect observed (not irritating) $^{[1]}$ Oral (rat) LD50: 10837 mg/kg^[2] TOXICITY IRRITATION Oral (rat) LD50: 11,200 mg/kg^[2] Eye: adverse effect observed (irritating)^[1] 2-hydroxypropyl methacrylate Skin: no adverse effect observed (not irritating)^[1] TOXICITY IRRITATION Not Available Dermal (rabbit) LD50: =250 mg/kg^[2] acrylic acid Inhalation (mouse) LC50: 2.65 mg/l/2h[2] Oral (rat) LD50: =33.5 mg/kg^[2] TOXICITY IRRITATION dermal (rat) LD50: 500 mg/kg^[2] Eye (rabbit): 1 mg cumyl hydroperoxide Inhalation (rat) LC50: 219.74898 mg/l/4hg[2] Skin (rabbit): 500 mg - mild Oral (rat) LD50: 382 mg/kg^[2] TOXICITY IRRITATION acetylphenylhydrazine Oral (mouse) LD50: 270 mg/kg^[2] Not Available TOXICITY IRRITATION N,N-bis-(2-hydroxyethyl)p-toluidine ethoxylated Not Available Not Available TOXICITY IRRITATION Dermal (rabbit) LD50: >2000 mg/kg^[2] Not Available N,N-dimethyl-p-toluidine Inhalation (rat) LC50: 1.4 mg/l/4H[2] Oral (rat) LD50: 980 $mg/kg^{[2]}$ Legend: 1. 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 Where no "official" classification for acrylates and methacrylates exists, there has been cautious attempts to create classifications in the absence of contrary evidence. For example Monalkyl or monoarylesters of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl esters of methacrylic acid should be classified as R36/37/38 Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental 2-HYDROXYPROPYL Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or **METHACRYLATE** methacrylate moiety (CH2=CHCOO or CH2=C(CH3)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer de facto carcinogens. for CAS 963-26-2 2-hydroxypropyl methacrylate NOTE: Allergic contact dermatitis is reported following exposure of guinea pigs (mild) and

humans (severe). for CAS 27813-02-1 1-hydroxypropyl methacrylate

Chemwatch: **5385-06**Version No: **2.1.1.1**

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: **08/11/2019**Print Date: **12/11/2019**

Acrylic Acid Acid

For acrylic acid:

Acute toxicity: Acrylic acid is absorbed via the lungs in animals and humans, absorption via the oral and dermal routes of exposure is demonstrated. In animals with solely nasal respiration, it is resorbed at the nasal mucosa. The extent of absorption depends on pH and solvent with direct dependence on substance concentration. In mice acrylic acid is rapidly and completely metabolised mainly in liver and kidney via the normal catabolic pathways of beta-oxidation.

The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.

Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.

CUMYL HYDROPEROXIDE

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

Bacterial cell mutagen Equivocal tumorigen by RTECS criteria

ACETYLPHENYLHYDRAZINE

Tumorigenic - Neoplastic by RTECS criteria.

involve antibody-mediated immune reactions.

N,N-BIS-(2-HYDROXYETHYL)-P-TOLUIDINE ETHOXYLATED

No significant acute toxicological data identified in literature search.

N,N-DIMETHYL-P-TOLUIDINE

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

TRIETHYLENE GLYCOL DIMETHACRYLATE & 2-HYDROXYPROPYL METHACRYLATE & ACETYLPHENYLHYDRAZINE

The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria,

TRIETHYLENE GLYCOL
DIMETHACRYLATE &
2-HYDROXYPROPYL
METHACRYLATE & ACRYLIC
ACID & CUMYL

HYDROPEROXIDE &

ACETYLPHENYLHYDRAZINE

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

Acute Toxicity	×	Carcinogenicity	✓
Skin Irritation/Corrosion	✓	Reproductivity	×
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	~
Mutagenicity	×	Aspiration Hazard	×

Legend:

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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

RS Pro Anaerobic	ENDPOINT	TEST DURATION (HR)	SPECIES VALUE		SOURCE
Threadlocker High Strength #918-6894 (AUS)	Not Available	Not Available	Not Available Not Available		Not Available
triethylene glycol	ENDPOINT	TEST DURATION (HR)	SPECIES VALUE		SOURCE
	LC50	96	Fish 16.4mg/L		2
dimethacrylate	EC50	72	Algae or other aquatic plants 72.8mg/L		2
	NOEC	72	Algae or other aquatic plants	18.6mg/L	2
2-hydroxypropyl methacrylate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	157.065mg/L	3
	EC50	48	Crustacea >143mg/L		2
	EC50	72	Algae or other aquatic plants >1-260mg/L		2
	NOEC	504	Crustacea	45.2mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	27.9mg/L	2
acrylic acid	EC50	72	Algae or other aquatic plants	0.04mg/L	2
	EC10	72	Algae or other aquatic plants	Algae or other aquatic plants =0.01mg/L	
	NOEC	72	Algae or other aquatic plants	=0.008mg/L	1
cumyl hydroperoxide	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	Fish 0.248mg/L	
	EC50	48	Crustacea	18.84mg/L	2

Chemwatch: 5385-06 Page 9 of 12

Version No: 2.1.1.1

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: 08/11/2019 Print Date: 12/11/2019

	NOEC	96	Fish	1.5mg/L	2
acetylphenylhydrazine	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	2.101mg/L	3
N.N.I.'s (0 by by second of)	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
N,N-bis-(2-hydroxyethyl)- p-toluidine ethoxylated	Not Available	Not Available	Not Available	Not Available	Not Available
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	6.846mg/L	3
N,N-dimethyl-p-toluidine	EC50	48	Crustacea	13.7mg/L	2
	EC50	96	Algae or other aquatic plants	15.481mg/L	3
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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				

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
triethylene glycol dimethacrylate	LOW	LOW
2-hydroxypropyl methacrylate	LOW	LOW
acrylic acid	HIGH (Half-life = 180 days)	LOW (Half-life = 0.99 days)
cumyl hydroperoxide	LOW (Half-life = 56 days)	LOW (Half-life = 5.42 days)
acetylphenylhydrazine	HIGH	HIGH
N,N-dimethyl-p-toluidine	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
triethylene glycol dimethacrylate	LOW (LogKOW = 1.88)
2-hydroxypropyl methacrylate	LOW (BCF = 3.2)
acrylic acid	LOW (LogKOW = 0.35)
cumyl hydroperoxide	LOW (BCF = 35.5)
acetylphenylhydrazine	LOW (LogKOW = 0.7365)
N,N-dimethyl-p-toluidine	LOW (LogKOW = 2.81)

Mobility in soil

Ingredient	Mobility
triethylene glycol dimethacrylate	LOW (KOC = 10)
2-hydroxypropyl methacrylate	LOW (KOC = 10)
acrylic acid	HIGH (KOC = 1.201)
cumyl hydroperoxide	LOW (KOC = 2346)
acetylphenylhydrazine	LOW (KOC = 70.29)
N,N-dimethyl-p-toluidine	LOW (KOC = 124.8)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Product / Packaging disposal

- ▶ Where in doubt contact the responsible authority.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ► Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
 Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Chemwatch: **5385-06** Page **10** of **12**

Version No: 2.1.1.1

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: **08/11/2019**Print Date: **12/11/2019**



Marine Pollutant



HAZCHEM •3Z

Land transport (ADG)

UN number	3082		
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains triethylene glycol dimethacrylate)		
Transport hazard class(es)	Class 9 Subrisk Not Applicable		
Packing group			
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions 274 331 335 375 AU01 Limited quantity 5 L		

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;

- (a) packagings;
- (b) IBCs; or
- (c) any other receptacle not exceeding 500 kg(L).
- Australian Special Provisions (SP AU01) ADG Code 7th Ed.

Air transport (ICAO-IATA / DGR)

UN number	3082			
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. * (contains triethylene glycol dimethacrylate)			
Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subrisk ERG Code	9 Not Applicable 9L		
Packing group	III			
Environmental hazard	Environmentally hazardous			
Special precautions for user		Qty / Pack Packing Instructions	A97 A158 A197 964 450 L 964 450 L Y964 30 kg G	

Sea transport (IMDG-Code / GGVSee)

UN number	3082		
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains triethylene glycol dimethacrylate)		
Transport hazard class(es)	IMDG Class 9 IMDG Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number F-A , S-F Special provisions 274 335 969 Limited Quantities 5 L		

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

Version No: 2.1.1.1

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

Issue Date: 08/11/2019 Print Date: 12/11/2019

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

TRIETHYLENE GLYCOL DIMETHACRYLATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes Australia Inventory of Chemical Substances (AICS)

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

2-HYDROXYPROPYL METHACRYLATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

ACRYLIC ACID IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported

Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes Australia Exposure Standards

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

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

International Air Transport Association (IATA) Dangerous Goods Regulations International Air Transport Association (IATA) Dangerous Goods Regulations -Prohibited List Passenger and Cargo Aircraft

International FOSFA List of Banned Immediate Previous Cargoes International Maritime Dangerous Goods Requirements (IMDG Code)

United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

CUMYL HYDROPEROXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be

Australia Dangerous Goods Code (ADG Code) - List of Currently Assigned Organic Peroxides in Packagings

Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Organic

Australia Dangerous Goods Code (ADG Code) - Portable Tank Instruction

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

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

ACETYLPHENYLHYDRAZINE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -

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

N,N-BIS-(2-HYDROXYETHYL)-P-TOLUIDINE ETHOXYLATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

N,N-DIMETHYL-P-TOLUIDINE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals Australia Inventory of Chemical Substances (AICS) Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) -Schedule 5

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

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

National Inventory Status

National Inventory	Status	
Australia - AICS	Yes	
Canada - DSL	No (N,N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated)	
Canada - NDSL	No (cumyl hydroperoxide; 2-hydroxypropyl methacrylate; acrylic acid; triethylene glycol dimethacrylate; N,N-dimethyl-p-toluidine; acetylphenylhydrazine)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	No (N,N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated)	
Japan - ENCS	No (N,N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated)	
Korea - KECI	Yes	
New Zealand - NZIoC	Yes	
Philippines - PICCS	No (N,N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated)	
USA - TSCA	Yes	
Taiwan - TCSI	Yes	
Mexico - INSQ	No (N,N-bis-(2-hydroxyethyl)-p-toluidine ethoxylated; acetylphenylhydrazine)	
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)	

Chemwatch: 5385-06 Page 12 of 12 Issue Date: 08/11/2019 Version No: 2.1.1.1 Print Date: 12/11/2019

RS Pro Anaerobic Threadlocker High Strength #918-6894 (AUS)

SECTION 16 OTHER INFORMATION

Revision Date 08/11/2019 Initial Date 07/11/2019

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

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

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