Permatex Maximum Temperature Thread Sealant with PTFE

ITW AAMTech

Chemwatch Hazard Alert Code: **3**

Chemwatch: **5108-95**
Version No: **9.1.1.1**
Material Safety Data Sheet according to NOHSC and ADG requirements

Issue Date: **08/09/2014**
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Initial Date: **Not Available**
S.Local.AUS.EN

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

Product Identifier

Product name	Permatex Maximum Temperature Thread Sealant with PTFE
Synonyms	PX56750
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains tetraethylene glycol di(2-ethylhexanoate))
Other means of identification	Not Available

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

Relevant identified uses	UV/ EB-curing is a drying technology for coatings, inks and adhesives. It uses light of a certain wavelength or high speed electrons to give almost instantaneous dry films. It allows formulators to develop products for a wide variety of applications and substrates without using volatile organic compounds as solvents. It represents therefore a major technological advance compared to other technologies, which may require abatement installations to take care of these compounds, as many of these compounds are able to cause either environmental or health risks if present in a too large concentration. Anearobic sealant for use on threaded pipes.

Details of the supplier of the safety data sheet

Registered company name	ITW AAMTech	ITW AAMTech
Address	Unit 2/38 Trugood Drive, East Tamaki, Auckland 2013 New Zealand	1-9 Nina Link, Dandenong South 3175 VIC Australia
Telephone	+800 438 996	1800 177 989
Fax	+64 9272 1949	1800 308 556
Website	www.aamtech.co.nz	www.aamtech.com.au
Email	info@aamtech.co.nz	info@aamtech.com.au

Emergency telephone number

Association / Organisation	Not Available	Not Available
Emergency telephone numbers	+800 2436 2255	1800 039 008
Other emergency telephone numbers	Not Available	+61 3 9573 3112

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

Poisons Schedule	S5	
Risk Phrases [1]	**R36/37/38**	Irritating to eyes, respiratory system and skin.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R49	May cause CANCER by inhalation.
	R19	May form explosive peroxides.
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*	

Continued...

GHS Classification [1]	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Carcinogen Category 1A, STOT - SE (Resp. Irr.) Category 3, Acute Aquatic Hazard Category 2, Chronic Aquatic Hazard Category 2
Legend:	*1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI*

Label elements

GHS label elements	
SIGNAL WORD	**DANGER**

Hazard statement(s)

H315	Causes skin irritation
H319	Causes serious eye irritation
H350	May cause cancer
H335	May cause respiratory irritation
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
AUH019	May form explosive peroxides

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P271	Use only outdoors or in a well-ventilated area.
P281	Use personal protective equipment as required.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.

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 in accordance with local regulations.

Label elements

Relevant risk statements are found in section 2

Indication(s) of danger	N, T, Xi

SAFETY ADVICE

S02	Keep out of reach of children.
S18	Handle and open container with care.
S21	When using do not smoke.

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S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S29	Do not empty into drains.
S35	This material and its container must be disposed of in a safe way.
S37	Wear suitable gloves.
S39	Wear eye/face protection.
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S46	If swallowed, seek medical advice immediately and show this container or label.
S53	Avoid exposure - obtain special instructions before use.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S57	Use appropriate container to avoid environmental contamination.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

Other hazards

	Cumulative effects may result following exposure*.
	Possible respiratory sensitizer*.
	May possibly be harmful to the foetus/ embryo*.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
25852-47-5	20-40	polyethylene glycol dimethacrylate
Not Available	25-35	polyester resin mixture
18268-70-7	10-20	tetraethylene glycol di(2-ethylhexanoate)
9002-88-4	<10	polyethylene
13463-67-7	<5	titanium dioxide
9002-84-0	<5	polytetrafluoroethylene
67762-90-7	<5	silica, dimethylsiloxane treated
80-15-9	<2	cumyl hydroperoxide

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

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 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.

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Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

	▸ Alcohol stable foam. ▸ Dry chemical powder. ▸ BCF (where regulations permit). ▸ Carbon dioxide.

Special hazards arising from the substrate or mixture

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).

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	Environmental hazard - contain spillage. ▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. ▸ Wear impervious gloves and safety goggles.
Major Spills	Environmental hazard - contain spillage. ▸ **DO NOT** touch the spill material Minor hazard. ▸ Clear area of personnel. ▸ Alert Fire Brigade and tell them location and nature of hazard.

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

SECTION 7 HANDLING AND STORAGE

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.
Other information	Ethoxylates/ alkoxylates react slowly with air or oxygen. Storage under heated conditions in the presence of air or oxygen increases reaction rate. For example, after storing at 95 F/ 35 C for 30 days in the presence of air, there is measurable oxidation of the ethoxylate. Lower temperatures will allow for longer storage time and higher temperatures will shorten the storage time if stored under an air or oxygen atmosphere.

Conditions for safe storage, including any incompatibilities

Suitable container	▸ Metal can or drum ▸ Packaging as recommended by manufacturer. ▸ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	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

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	▸ explosive) ▸ Stable under controlled storage conditions provided material contains adequate stabiliser / polymerisation inhibitor.

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	titanium dioxide	Titanium dioxide (a)	10 mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
polyethylene glycol dimethacrylate	Polyethylene glycol dimethacrylate	30 mg/m3	330 mg/m3	2000 mg/m3
polyethylene	Polyethylene	10 mg/m3	110 mg/m3	1000 mg/m3
titanium dioxide	Titanium oxide; (Titanium dioxide)	10 mg/m3	10 mg/m3	10 mg/m3
polytetrafluoroethylene	Polytetrafluoroethylene; (Teflon)	0.3 mg/m3	3.3 mg/m3	20 mg/m3
silica, dimethylsiloxane treated	Siloxanes and silicones, dimethyl, reaction products with silica; (Hydrophobic silicon dioxide, amorphous)	0.07 mg/m3	0.77 mg/m3	4.6 mg/m3
cumyl hydroperoxide	Cumene hydroperoxide; (Isopropylbenzene hydroperoxide)	1.1 ppm	1.1 ppm	9.7 ppm

Ingredient	Original IDLH	Revised IDLH
polyethylene glycol dimethacrylate	Not Available	Not Available
polyester resin mixture	Not Available	Not Available
tetraethylene glycol di(2-ethylhexanoate)	Not Available	Not Available
polyethylene	Not Available	Not Available
titanium dioxide	N.E. mg/m3 / N.E. ppm	5,000 mg/m3
polytetrafluoroethylene	Not Available	Not Available
silica, dimethylsiloxane treated	Not Available	Not Available
cumyl hydroperoxide	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.
Personal protection	
Eye and face protection	▸ Safety glasses with side shields. ▸ Chemical goggles. ▸ 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.
Skin protection	See Hand protection below
Hands/feet protection	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) — Use of thin nitrile rubber gloves: Nitrile rubber (0.1 mm)

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	0.5 hour) Little physical stress	Excellent tactibility ("feel"), powder-free Disposable Inexpensive Give adequate protection to low molecular weigh acrylic monomers
	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 (for example in long term handling of acrylates containing high levels of acetates and/ or ketones, use laminated multilayer gloves.
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.
Thermal hazards	Not Available

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:
Permatex Maximum Temperature Thread Sealant with PTFE

Material	CPI
TEFLON	C

* 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.

Respiratory protection

Type A-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	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-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)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White paste with a mild odour; not miscible with water.

Physical state	Non Slump Paste	**Relative density (Water = 1)**	1.05-1.15
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available

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Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Applicable	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	>149	**Molecular weight (g/mol)**	Not Applicable
Flash point (°C)	>93 (TCC)	**Taste**	Not Available
Evaporation rate	Not Available	**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)**	<3% (VOC - by wt)
Vapour pressure (kPa)	<0.67 @22C	**Gas group**	Not Available
Solubility in water (g/L)	Immiscible	**pH as a solution (1%)**	Not Applicable
Vapour density (Air = 1)	>1	**VOC g/L**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	‣ Stable under controlled storage conditions provided material contains adequate stabiliser / polymerisation inhibitor. ‣ Bulk storages may have special storage requirements ‣ WARNING: Gradual decomposition in strong, sealed containers may lead to a large pressure build-up and subsequent explosion. Rapid and violent polymerisation possible at temperatures above 32 deg c. ‣ Unstable in the presence of incompatible materials.
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	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. No report of respiratory illness in humans as a result of exposure to multifunctional acrylates has been found. Inhalation hazard is increased at higher temperatures.
Ingestion	The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. All multifunctional acrylates (MFA) produce skin disorders and sensitise the skin and inflammation. Vapours generated by the heat of milling may occur in sufficient concentration to produce inflammation.
Eye	There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.
Chronic	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Based on experience with animal studies, there is a possibility that exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.

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Permatex Maximum Temperature Thread Sealant with PTFE	**TOXICITY**	**IRRITATION**
	Not Available	Not Available
polyethylene glycol dimethacrylate	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: >10000 mg/kgt[2]	Eye - Severe irritant
		Skin - Severe irritant
tetraethylene glycol di(2-ethylhexanoate)	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >20000 mg/kg[2]	Skin (rabbit): 500 mg - mild
	Oral (rat) LD50: 18000 mg/kgd[2]	
polyethylene	**TOXICITY**	**IRRITATION**
	Dermal (rabbit) LD50: >2000 mg/kg[2]	Not Available
	Inhalation (mouse) LC50: 12 mg/L/30m[2]	
	Inhalation (rat) LC50: 75.5 mg/L/30M[2]	
	Oral (rat) LD50: >3000 mg/kg[2]	
titanium dioxide	**TOXICITY**	**IRRITATION**
	Inhalation (rat) LC50: >2.28 mg/l4 h[1]	Skin (human): 0.3 mg /3D (int)-mild *
	Inhalation (rat) LC50: >3.56 mg/l4 h[1]	
	Inhalation (rat) LC50: >6.82 mg/l4 h[1]	
	Inhalation (rat) LC50: 3.43 mg/l4 h[1]	
	Inhalation (rat) LC50: 5.09 mg/l4 h[1]	
	Oral (rat) LD50: >2000 mg/kg[1]	
polytetrafluoroethylene	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: 1250 mg/kg*][2]	Nil reported * [Manufacturer]
silica, dimethylsiloxane treated	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50: >5000 mg/kgg[2]	[Cabot]
		Eyes: 0.7/110 24hr Draize
		non-irritating
		Skin: 0/8 non-irritating
cumyl hydroperoxide	**TOXICITY**	**IRRITATION**
	dermal (rat) LD50: >515<1 mg/kg>[1]	Eye (rabbit): 1 mg
	Inhalation (rat) LC50: 220 ppm/4hg[2]	Skin (rabbit): 500 mg - mild
	Oral (rat) LD50: 1431.7 mg/kg[1]	
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*	

TETRAETHYLENE GLYCOL DI(2-ETHYLHEXANOATE)	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Aliphatic Esters Panel, Group C substances are comprised of an acid and an alcohol. They are relatively non-volatile, with high boiling and low water solubility. They are useful lubricants and solvents.
POLYETHYLENE	The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. polyethylene pyrolyzate
TITANIUM DIOXIDE	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 on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Exposure to titanium dioxide is via inhalation, swallowing or skin contact.

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	* IUCLID
POLYTETRAFLUOROETHYLENE	Perfluorinated compounds are potent peroxisome proliferators. The material may produce peroxisome proliferation. Peroxisomes are single, membrane limited organelles in the cytoplasm that are found in the cells of animals, plants, fungi, and protozoa. The substance is classified by IARC as Group 3: **NOT** classifiable as to its carcinogenicity to humans.
SILICA, DIMETHYLSILOXANE TREATED	For silica amorphous: When experimental animals inhale synthetic amorphous silica (SAS) dust, it dissolves in the lung fluid and is rapidly eliminated. If swallowed, the vast majority of SAS is excreted in the faeces and there is little accumulation in the body. Following absorption across the gut, SAS is eliminated via urine without modification in animals and humans. SAS is not expected to be broken down (metabolised) in mammals.
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 on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. Bacterial cell mutagen Equivocal tumorigen by RTECS criteria
Permatex Maximum Temperature Thread Sealant with PTFE & POLYETHYLENE GLYCOL DIMETHACRYLATE	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 required to make classification available*
✘ *– Data available but does not fill the criteria for classification*
⊘ *– Data Not Available to make classification*

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
polyethylene	LOW	LOW
titanium dioxide	HIGH	HIGH
polytetrafluoroethylene	HIGH	HIGH
cumyl hydroperoxide	LOW (Half-life = 56 days)	LOW (Half-life = 5.42 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
polyethylene	LOW (LogKOW = 1.2658)

Continued...

titanium dioxide	LOW (BCF = 10)
polytetrafluoroethylene	LOW (LogKOW = 1.2142)
cumyl hydroperoxide	LOW (BCF = 35.5)

Mobility in soil

Ingredient	Mobility
polyethylene	LOW (KOC = 14.3)
titanium dioxide	LOW (KOC = 23.74)
polytetrafluoroethylene	LOW (KOC = 106.8)
cumyl hydroperoxide	LOW (KOC = 2346)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	▸ **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. ▸ Where in doubt contact the responsible authority.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	
HAZCHEM	•3Z

Land transport (ADG)

UN number	3082
Packing group	III
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains tetraethylene glycol di(2-ethylhexanoate))
Environmental hazard	No relevant data
Transport hazard class(es)	Class: 9 Subrisk: Not Applicable
Special precautions for user	Special provisions: 179 274 331 335 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
Packing group	III
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. * (contains tetraethylene glycol di(2-ethylhexanoate))
Environmental hazard	No relevant data

Continued...

Transport hazard class(es)	ICAO/IATA Class	9
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	9L
Special precautions for user	Special provisions	A97 A158 A197
	Cargo Only Packing Instructions	964
	Cargo Only Maximum Qty / Pack	450 L
	Passenger and Cargo Packing Instructions	964
	Passenger and Cargo Maximum Qty / Pack	450 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y964
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

Sea transport (IMDG-Code / GGVSee)

UN number	3082	
Packing group	III	
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains tetraethylene glycol di(2-ethylhexanoate))	
Environmental hazard	Not Applicable	
Transport hazard class(es)	IMDG Class	9
	IMDG Subrisk	Not Applicable
Special precautions for user	EMS Number	F-A , S-F
	Special provisions	274 335
	Limited Quantities	5 L

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	titanium dioxide	Z

SECTION 15 REGULATORY INFORMATION

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

POLYETHYLENE GLYCOL DIMETHACRYLATE(25852-47-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

TETRAETHYLENE GLYCOL DI(2-ETHYLHEXANOATE)(18268-70-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

POLYETHYLENE(9002-88-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

TITANIUM DIOXIDE(13463-67-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

POLYTETRAFLUOROETHYLENE(9002-84-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

SILICA, DIMETHYLSILOXANE TREATED(67762-90-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

CUMYL HYDROPEROXIDE(80-15-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Continued...

Australia Hazardous Substances Information System - Consolidated Lists | Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (polytetrafluoroethylene; cumyl hydroperoxide; tetraethylene glycol di(2-ethylhexanoate); silica, dimethylsiloxane treated; polyethylene; polyethylene glycol dimethacrylate)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	N (polytetrafluoroethylene; silica, dimethylsiloxane treated; polyethylene; polyethylene glycol dimethacrylate)
Japan - ENCS	N (silica, dimethylsiloxane treated)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	N (tetraethylene glycol di(2-ethylhexanoate))
USA - TSCA	Y
Legend:	*Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
titanium dioxide	100292-32-8, 101239-53-6, 116788-85-3, 12000-59-8, 12188-41-9, 12701-76-7, 12767-65-6, 12789-63-8, 1309-63-3, 1317-70-0, 1317-80-2, 1344-29-2, 13463-67-7, 185323-71-1, 185828-91-5, 188357-76-8, 188357-79-1, 195740-11-5, 221548-98-7, 224963-00-2, 246178-32-5, 252962-41-7, 37230-92-5, 37230-94-7, 37230-95-8, 37230-96-9, 39320-58-6, 39360-64-0, 39379-02-7, 416845-43-7, 494848-07-6, 494848-23-6, 494851-77-3, 494851-98-8, 55068-84-3, 55068-85-4, 552316-51-5, 62338-64-1, 767341-00-4, 97929-50-5, 98084-96-9

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.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net

The (M)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.

end of SDS