Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
PERMATEX MEDIUM STRENGTH THREADLOCKER BLUE 50ML

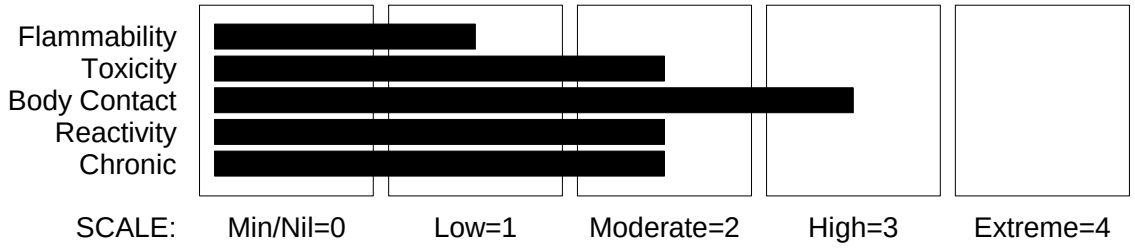
SYNONYMS

"Product Code: 24250", "Product Code: 24210", "thread locker", "anaerobic adhesive"

PRODUCT USE
Anaerobic adhesive to lock and seal threaded fasteners.

SUPPLIER
Company: Australian Timken
Address:
5 Daveyduke Road
Ballarat
VIC, 3350
AUS
Telephone: +61 3 5320 2700
Fax: +61 3 5338 1186

HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE
None

RISK

Risk Codes	Risk Phrases
R20	Harmful by inhalation.
R37/38	Irritating to respiratory system and skin.
R41	Risk of serious damage to eyes.
R43	May cause SENSITISATION by skin contact.
R48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50	Very toxic to aquatic organisms.
R52/53	Harmful to aquatic organisms, may cause long- term adverse effects in the aquatic environment.
R65	HARMFUL- May cause lung damage if swallowed.

SAFETY

Safety Codes	Safety Phrases
S23	Do not breathe gas/fumes/vapour/spray.
S36	Wear suitable protective clothing.
S51	Use only in well ventilated areas.
S09	Keep container in a well ventilated place.
S401	To clean the floor and all objects contaminated by this material, use water and detergent.
S07	Keep container tightly closed.
S35	This material and its container must be disposed of in a

continued...

	safe way.
S13	Keep away from food, drink and animal feeding stuffs.
S27	Take off immediately all contaminated clothing.
S46	If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).
S57	Use appropriate container to avoid environmental contamination.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyethylene glycol dimethacrylate	25852-47-5	60-70
2- ethylhexanoic acid diester with tetraethylene glycol	18268-70-7	25-35
silica, dimethylsiloxane treated	67762-90-7	1-10
cumyl hydroperoxide	80-15-9	1-10
saccharin	81-07-2	1-10

Section 4 - FIRST AID MEASURES

SWALLOWED

- 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.
If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

EYE

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.

SKIN

If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.

NOTES TO PHYSICIAN

Treat symptomatically.
Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
- Foam.
- Dry chemical powder.

FIRE FIGHTING
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.

FIRE/EXPLOSION HAZARD
- Combustible.
- Slight fire hazard when exposed to heat or flame.
Combustion products include: carbon dioxide (CO2), nitrogen oxides (NOx), other pyrolysis products typical of burning organic material.
May emit clouds of acrid smoke.

continued...

May emit poisonous fumes.

FIRE INCOMPATIBILITY
Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc.

HAZCHEM: None

Personal Protective Equipment
Breathing apparatus.
Gas tight chemical resistant suit.
Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS
- Remove all ignition sources.
- Clean up all spills immediately.

MAJOR SPILLS
- Absorb or contain isothiazolinone liquid spills with sand, earth, inert material or vermiculite.
- The absorbent (and surface soil to a depth sufficient to remove all of the biocide) should be shovelled into a drum and treated with an 11% solution of sodium metabisulfite ($Na_2S_2O_5$) or sodium bisulfite ($NaHSO_3$), or 12% sodium sulfite (Na_2SO_3) and 8% hydrochloric acid (HCl).
DO NOT touch the spill material.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR 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.

SUITABLE CONTAINER
- Metal can or drum
- Packaging as recommended by manufacturer.

STORAGE INCOMPATIBILITY
Exposure to light, free radical initiators, iron, rust and strong bases, and storage beyond expiration date, may initiate polymerisation.
Contamination with polymerisation catalysts - peroxides, persulfates, oxidising agents - also strong acids, strong alkalies, will cause polymerisation with exotherm - generation of heat.
Polymerisation of large quantities may be violent - even explosive.
For acrylic and methacrylic acid esters:
Avoid contact with strong acids, strong alkalies, oxidising agents, polymerisation initiators, heat, flame, sunlight, x-rays or ultra-violet radiation.

STORAGE REQUIREMENTS
WARNING: Decomposition may occur after prolonged storage.
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.
- Store in original containers.
- Keep containers securely sealed.

continued...

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC
Australia Exposure Standards	silica, dimethylsiloxane treated (Inspirable dust (Not specified))		10					
Australia Exposure Standards	saccharin (Inspirable dust (Not specified))		10					

The following materials had no OELs on our records
- polyethylene glycol dimethacrylate: CAS:25852-47-5
- 2-ethylhexanoic acid diester with tetraethylene glycol: CAS:18268-70-7
- cumyl hydroperoxide: CAS:80-15-9

PERSONAL PROTECTION

RESPIRATOR
Type A-P Filter of sufficient capacity

EYE
- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET
Butyl rubber gloves.
Nitrile rubber gloves.
Polyethylene gloves.
Suitability and durability of glove type is dependent on usage. Factors such a:
- frequency and duration of contact,
- chemical resistance of glove material,
Wear chemical protective gloves, eg. PVC.
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.

OTHER
- Overalls.
- P.V.C. apron.

ENGINEERING CONTROLS
Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Blue liquid with a mild odour; slightly miscible with water.

PHYSICAL PROPERTIES
Liquid.
Does not mix with water.
Sinks in water.

Molecular Weight: Not applicable
Melting Range (℃): Not available
Solubility in water (g/L): Immiscible
pH (1% solution): Not available
Volatile Component (%vol): 2.9

Boiling Range (℃): >149
Specific Gravity (water=1): >1.0
pH (as supplied): Not available
Vapour Pressure (kPa): Not Available
Evaporation Rate: Not available

continued...

Relative Vapour Density (air=1): Not Available
Lower Explosive Limit (%): Not Available
Autoignition Temp (℃): Not available
State: Liquid

Flash Point (℃): >200 (PMCC)
Upper Explosive Limit (%): Not Available
Decomposition Temp (℃): Not available
Viscosity: Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Polymerisation may occur at elevated temperatures.
- Polymerisation may be accompanied by generation of heat as exotherm.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS
Harmful by inhalation.
HARMFUL- May cause lung damage if swallowed.
Risk of serious damage to eyes.
Irritating to respiratory system and skin.

CHRONIC HEALTH EFFECTS
May cause SENSITISATION by skin contact.
Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

TOXICITY AND IRRITATION

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.
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
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.
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.

POLYETHYLENE GLYCOL DIMETHACRYLATE:

TOXICITY	IRRITATION
Oral (rat) LD50: > 10000 mg/kg	Skin - SEVERE Irritant
	Eye - Severe irritant

Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or 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.

2-ETHYLHEXANOIC ACID DIESTER WITH TETRAETHYLENE GLYCOL:

TOXICITY	IRRITATION
Oral (rat) LD50: 18000 mg/kg	Skin (rabbit): 500 mg - Mild
Dermal (rabbit) LD50: >20 ml/kg	

SILICA, DIMETHYLSILOXANE TREATED:

TOXICITY	IRRITATION
Oral (rat) LD50: >5000 mg/kg	Skin: 0/8 non- irritating
	Eyes: 0.7/110 @ 24hr Draize
	non-irritating
	[Cabot]

CUMYL HYDROPEROXIDE:

TOXICITY	IRRITATION
Oral (rat) LD50: 382 mg/kg	
Skin (rabbit): 500 mg - Mild	
Eye (rabbit): 1 mg	
Bacterial cell mutagen	
Equivocal tumorigen by RTECS criteria	

SACCHARIN:

TOXICITY	IRRITATION
Oral (mouse) LD50: 17000 mg/kg	

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.

continued...

MATERIAL	CARCINOGEN	REPROTOXIN	SENSITISER	SKIN
saccharin	IARC:3			

CARCINOGEN
IARC: International Agency for Research on Cancer (IARC) Carcinogens: saccharin Category: 3

Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Avoid release to the environment.
Refer to special instructions/ safety data sheets.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM: None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:UN

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE: None

REGULATIONS

polyethylene glycol dimethacrylate (CAS: 25852-47-5) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)

2-ethylhexanoic acid diester with tetraethylene glycol (CAS: 18268-70-7) is found on the following regulatory lists;
Australia Inventory of Chemical Substances (AICS)
OECD Representative List of High Production Volume (HPV) Chemicals

silica, dimethylsiloxane treated (CAS: 67762-90-7) is found on the following regulatory lists;
Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix C
Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 4
OECD Representative List of High Production Volume (HPV) Chemicals

cumyl hydroperoxide (CAS: 80-15-9) is found on the following regulatory lists;
Australia Dangerous Goods Code Draft 7th Edition - Goods too Dangerous to be Transported
Australia Dangerous Goods Code Draft 7th Edition - Organic Peroxides
Australia Inventory of Chemical Substances (AICS)
International Council of Chemical Associations (ICCA) - High Production Volume List
OECD Representative List of High Production Volume (HPV) Chemicals

saccharin (CAS: 81-07-2) is found on the following regulatory lists;
Australia Exposure Standards
Australia Inventory of Chemical Substances (AICS)
International Agency for Research on Cancer (IARC) Carcinogens

continued...

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
2- ethylhexanoic acid diester with tetraethylene glycol	18268- 70-7	N; R50/53

Issue Date: 11-Apr-2007
Print Date: 12-Apr-2007