

BIS-P GEN2, Comp. A

Iccons

Chemwatch Hazard Alert Code: 2

Chemwatch: 5396-40

Version No: 4.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 08/20/2021

Print Date: 03/23/2023

S.GHS.AUS.EN

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

Product Identifier

Product name	BIS-P GEN2, Comp. A
Chemical Name	Not Applicable
Synonyms	PolyPRO GEN2, Comp. A
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Adhesive mortar for fastening elements A-component (resin).
--------------------------	---

Details of the manufacturer or supplier of the safety data sheet

Registered company name	Iccons	Sesto Fasteners Ltd
Address	383 Frankston Dandenong Road Dandenong South VIC 3175 Australia	5E Piermark Drive Albany Auckland 0632 New Zealand
Telephone	+61 3 9706 4344	+64 09 415 8564
Fax	Not Available	Not Available
Website	www.iccons.com.au	www.sestofasteners.co.nz
Email	info@iccons.com.au	info@sestofasteners.co.nz

Emergency telephone number

Association / Organisation	Shore Care, Smales Farm	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	+64 09 486 7777 (24 hrs)	+61 1800 951 288
Other emergency telephone numbers	Not Available	+61 3 9573 3188


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

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Germ Cell Mutagenicity Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Warning

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P271	Use only outdoors or in a well-ventilated area.

P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing mist/vapours/spray.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
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 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
2082-81-7	10-<20	<u>1,4-butanediol dimethacrylate</u>
25013-15-4	1-<5	<u>methylstyrene, mixed isomers</u>
97-90-5	1-<5	<u>ethylene glycol dimethacrylate</u>
27813-02-1	1-<5	<u>2-hydroxypropyl methacrylate</u>
3077-12-1	<1.5	<u>N,N-bis(2-hydroxyethyl)-p-toluidine</u>
38668-48-3	<1	<u>dipropoxy-p-toluidine</u>
6846-50-0	<1	<u>2,2,4-trimethyl-1,3-pentanediol diisobutyrate</u>
130-15-4	<0.1	<u>1,4-naphthoquinone</u>
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 First aid measures**Description of first aid measures**

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ 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	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> ▶ 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.

Do not use water jets.

Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul style="list-style-type: none"> ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
-----------------------------	--

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ 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. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ 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). <p>Combustion products include: carbon dioxide (CO₂) nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p>
HAZCHEM	Not Applicable

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	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid contact with skin and eyes. ▶ Wear impervious gloves and safety goggles. ▶ Trowel up/scrape up.
Major Spills	<ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water course.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ 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. ▶ 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	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ No smoking, naked lights or ignition sources. ▶ Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Avoid reaction with oxidising agents ▶ Avoid cross contamination between the two liquid parts of product (kit). ▶ If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur. ▶ This excess heat may generate toxic vapour

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Continued...

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	methylstyrene, mixed isomers	Vinyl toluene	50 ppm / 242 mg/m3	483 mg/m3 / 100 ppm	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
ethylene glycol dimethacrylate	9.9 mg/m3	110 mg/m3	650 mg/m3
1,4-naphthoquinone	0.57 mg/m3	6.3 mg/m3	38 mg/m3

Ingredient	Original IDLH	Revised IDLH
1,4-butanediol dimethacrylate	Not Available	Not Available
methylstyrene, mixed isomers	400 ppm	Not Available
ethylene glycol dimethacrylate	Not Available	Not Available
2-hydroxypropyl methacrylate	Not Available	Not Available
N,N-bis(2-hydroxyethyl)-p-toluidine	Not Available	Not Available
dipropoxy-p-toluidine	Not Available	Not Available
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Not Available	Not Available
1,4-naphthoquinone	Not Available	Not Available


Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
1,4-butanediol dimethacrylate	E	≤ 0.1 ppm
ethylene glycol dimethacrylate	E	≤ 0.1 ppm
2-hydroxypropyl methacrylate	E	≤ 0.1 ppm
N,N-bis(2-hydroxyethyl)-p-toluidine	E	≤ 0.01 mg/m ³
dipropoxy-p-toluidine	E	≤ 0.01 mg/m ³
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	E	≤ 0.1 ppm
1,4-naphthoquinone	E	≤ 0.01 mg/m ³

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.

Exposure controls

Appropriate engineering controls	<p>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:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p>				
Individual protection measures, such as personal protective equipment					
Eye and face protection	<ul style="list-style-type: none"> ▶ 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	<p>NOTE:</p> <ul style="list-style-type: none"> ▶ 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. <p>General warning: Do NOT use latex gloves! Use only recommended gloves - using the wrong gloves may increase the risk:</p> <table border="1"> <tbody> <tr> <td> <p>Exposure condition</p> <p>Short time use; (few minutes less than 0.5 hour)</p> <p>Little physical stress</p> </td> <td> <p>Use of thin nitrile rubber gloves:</p> <p>Nitrile rubber (0.1 mm)</p> <p>Excellent tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Inexpensive</p> <p>Give adequate protection to low molecular weight acrylic monomers</p> </td> </tr> <tr> <td> <p>Exposure condition</p> <p>Medium time use; less than 4 hours</p> <p>Physical stress (opening drums, using tools, etc.)</p> </td> <td> <p>Use of medium thick nitrile rubber gloves</p> <p>Nitrile rubber, NRL (latex) free; <0.45 mm</p> <p>Moderate tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Moderate price</p> <p>Gives adequate protection for most acrylates up to 4 hours</p> <p>Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</p> </td> </tr> </tbody> </table>	<p>Exposure condition</p> <p>Short time use; (few minutes less than 0.5 hour)</p> <p>Little physical stress</p>	<p>Use of thin nitrile rubber gloves:</p> <p>Nitrile rubber (0.1 mm)</p> <p>Excellent tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Inexpensive</p> <p>Give adequate protection to low molecular weight acrylic monomers</p>	<p>Exposure condition</p> <p>Medium time use; less than 4 hours</p> <p>Physical stress (opening drums, using tools, etc.)</p>	<p>Use of medium thick nitrile rubber gloves</p> <p>Nitrile rubber, NRL (latex) free; <0.45 mm</p> <p>Moderate tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Moderate price</p> <p>Gives adequate protection for most acrylates up to 4 hours</p> <p>Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</p>
<p>Exposure condition</p> <p>Short time use; (few minutes less than 0.5 hour)</p> <p>Little physical stress</p>	<p>Use of thin nitrile rubber gloves:</p> <p>Nitrile rubber (0.1 mm)</p> <p>Excellent tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Inexpensive</p> <p>Give adequate protection to low molecular weight acrylic monomers</p>				
<p>Exposure condition</p> <p>Medium time use; less than 4 hours</p> <p>Physical stress (opening drums, using tools, etc.)</p>	<p>Use of medium thick nitrile rubber gloves</p> <p>Nitrile rubber, NRL (latex) free; <0.45 mm</p> <p>Moderate tactility ("feel"), powder-free</p> <p>Disposable</p> <p>Moderate price</p> <p>Gives adequate protection for most acrylates up to 4 hours</p> <p>Do NOT give adequate protection to low molecular weight monomers at exposures longer than 1 hour</p>				

Exposure condition	<p>Nitrile rubber, NRL (latex) free; >0.56 mm low tactility ("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.</p> <p>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</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C apron. ▶ Barrier cream. ▶ Skin cleansing cream.

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 5 x ES	AK-AUS / Class 1 P2	-	AK-PAPR-AUS / Class 1 P2
up to 25 x ES	Air-line*	AK-2 P2	AK-PAPR-2 P2
up to 50 x ES	-	AK-3 P2	-
50+ x ES	-	Air-line**	-

^ - 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 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	Light beige coloured paste; does not mix with water.		
Physical state	Non Slump Paste	Relative density (Water = 1)	1.72 @20C
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	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)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	2.8

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.

Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.
Ingestion	Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Sensitisation may give severe responses to very low levels of exposure, i.e. hypersensitivity. 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.

	TOXICITY	IRRITATION
	BIS-P GEN2, Comp. A	Inhalation (None) LC50: 265.9 mg/l(vapour)*[2] Inhalation (None) LC50: 36.259 mg/l(dust/mist)*[2] Oral (None) LD50: 8042.2 mg/kg*[2]
1,4-butanediol dimethacrylate	Oral (Rat) LD50: 10.066 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
methylstyrene, mixed isomers	Inhalation(Mouse) LC50: 3.02 mg/L4h ^[2] Oral (Rat) LD50: 2255 mg/kg ^[2]	Eye (rabbit): 90 mg - mild Skin (rabbit): 100% moderate
ethylene glycol dimethacrylate	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (Mouse) LD50: 2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
2-hydroxypropyl methacrylate	Oral (Rat) LD50: 5050 mg/kg ^[2]	Eye: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
N,N-bis(2-hydroxyethyl)-p-toluidine	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (Mouse) LD50: 650 mg/kg ^[2]	Not Available
dipropoxy-p-toluidine	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (Rat) LD50: >25<200 mg/kg ^[1]	Eye (rabbit): slight* * = BAYER Skin (rabbit): 4h - Non irrit.*
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Dermal (rabbit) LD50: >2000 mg/kg ^[1] Oral (Rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): very slight** *[Eastman] *[Patty] Eye: no adverse effect observed (not irritating) ^[1] Skin (guinea pig): 5000mg/kg-mild Skin: no adverse effect observed (not irritating) ^[1]

	TOXICITY	IRRITATION
1,4-naphthoquinone	dermal (rat) LD50: 202 mg/kg ^[2]	Skin: adverse effect observed (corrosive) ^[1]
	Inhalation(Rat) LC50: 0.046 mg/l4h ^[1]	Skin: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 190 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

METHYLSTYRENE, MIXED ISOMERS	Olfaction and eye effects recorded The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
2-HYDROXYPROPYL METHACRYLATE	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
2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	NOAEL oral (rat), 103 days = 1% in diet *** NOEL oral (dog), 90 days = 1% in diet *** Mutagenicity/Genotoxicity Data: *** Chromosomal aberration assay: Negative (+/- activation) CHO/HGPRT assay: Negative (+/- activation) Salmonella-E.coli reverse mutation assay (Ames test): Negative (+/- activation) *,**,*** Various suppliers MSDS Sensitization Species:Guinea pig: Result: sensitizing Effects on foetal development: Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 300 mg/kg body weight Reproductive toxicity;Assessment: Some evidence of adverse effects on development, based on animal experiments. * Eastman Benzoflex 6000 Plasticiser For 2,2,4-trimethyl-1,3-pentanediol diisobutyrate (TXIB) Laboratory testing showed that TXIB does not cause genetic toxicity. It may damage the kidneys of developing animals but only at levels that also affect the adult.
1,4-NAPHTHOQUINONE	Somnolence, dyspnae, tumors, maternal effects recorded. Equivocal tumorigen by RTECS criteria. Active as anti-cancer agent. Biologically active naphthoquinones readily passes through the cellular membranes. This as well as its capacity to produce free oxygen radicals, account for its level of toxicity. Unsubstituted naphthoquinones may not show sudden gene damage unlike the substituted counterparts.
1,4-BUTANEDIOL DIMETHACRYLATE & ETHYLENE GLYCOL DIMETHACRYLATE & 2-HYDROXYPROPYL METHACRYLATE & N,N-BIS(2-HYDROXYETHYL)-P-TOLUIDINE & 2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE & 1,4-NAPHTHOQUINONE	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, involve antibody-mediated immune reactions.
1,4-BUTANEDIOL DIMETHACRYLATE & ETHYLENE GLYCOL DIMETHACRYLATE & 2-HYDROXYPROPYL METHACRYLATE & N,N-BIS(2-HYDROXYETHYL)-P-TOLUIDINE & 1,4-NAPHTHOQUINONE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
1,4-BUTANEDIOL DIMETHACRYLATE & ETHYLENE GLYCOL DIMETHACRYLATE	UV (ultraviolet) / EB (electron beam) acrylates are generally of low toxicity. UV/EB acrylates are divided into two groups the "stenomeric" and "eurymeric" acrylates. Stenomeric acrylates are usually more hazardous than the eurymeric substances.
1,4-BUTANEDIOL DIMETHACRYLATE & ETHYLENE GLYCOL DIMETHACRYLATE & 2-HYDROXYPROPYL METHACRYLATE	Where no "official" classification for acrylates and methacrylates exists, there have been cautious attempts to create classifications in the absence of contrary evidence. For example Monoalkyl 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 Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH ₂ =CHCOO or CH ₂ =C(CH ₃)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 <i>de facto</i> carcinogens.
1,4-BUTANEDIOL DIMETHACRYLATE & METHYLSTYRENE, MIXED ISOMERS & N,N-BIS(2-HYDROXYETHYL)-P-TOLUIDINE	No significant acute toxicological data identified in literature search.
METHYLSTYRENE, MIXED ISOMERS & 2,2,4-TRIMETHYL-1,3-PENTANEDIOL DIISOBUTYRATE	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.

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

BIS-P GEN2, Comp. A

✔ – Data available to make classification

SECTION 12 Ecological information

Toxicity

BIS-P GEN2, Comp. A	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
1,4-butanediol dimethacrylate	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	72h	Algae or other aquatic plants	2.11mg/l	2
	EC50	72h	Algae or other aquatic plants	4.97mg/l	2
	LC50	96h	Fish	12.4mg/l	2
methylstyrene, mixed isomers	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	0.07mg/l	2
	EC50	72h	Algae or other aquatic plants	0.319mg/l	2
	EC50	96h	Algae or other aquatic plants	4.122mg/l	2
	LC50	96h	Fish	5.2mg/l	2
EC50	48h	Crustacea	>1<10mg/l	4	
ethylene glycol dimethacrylate	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	96h	Algae or other aquatic plants	0.804mg/l	2
	EC50	96h	Algae or other aquatic plants	10.1mg/l	2
	EC50	72h	Algae or other aquatic plants	17.3mg/l	2
	LC50	96h	Fish	15.95mg/l	2
EC50	48h	Crustacea	44.9mg/l	2	
2-hydroxypropyl methacrylate	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	45.2mg/l	2
	EC50	72h	Algae or other aquatic plants	>97.2mg/l	2
	LC50	96h	Fish	833mg/l	2
EC50	48h	Crustacea	>143mg/l	2	
N,N-bis(2-hydroxyethyl)-p-toluidine	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>100mg/l	2
	EC50(ECx)	48h	Crustacea	48mg/l	2
	EC50	72h	Algae or other aquatic plants	>100mg/l	2
EC50	48h	Crustacea	48mg/l	2	
dipropoxy-p-toluidine	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	17mg/l	2
	EC50(ECx)	48h	Crustacea	28.8mg/l	2
	EC50	72h	Algae or other aquatic plants	245mg/l	2
EC50	48h	Crustacea	28.8mg/l	2	
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1008h	Fish	0.6-0.8	7
	NOEC(ECx)	504h	Crustacea	0.7mg/l	2
	LC50	96h	Fish	>1.55mg/l	2
	EC50	72h	Algae or other aquatic plants	>7.49mg/l	2
EC50	48h	Crustacea	>1.46mg/l	1	
1,4-naphthoquinone	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	3.5mg/l	Not Available
	EC50	72h	Algae or other aquatic plants	0.42mg/l	2
	EC50	48h	Crustacea	0.026mg/l	2
EC50(ECx)	48h	Crustacea	0.026mg/l	2	

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Continued...

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1,4-butanediol dimethacrylate	LOW	LOW
ethylene glycol dimethacrylate	LOW	LOW
2-hydroxypropyl methacrylate	LOW	LOW
N,N-bis(2-hydroxyethyl)-p-toluidine	LOW	LOW
dipropoxy-p-toluidine	HIGH	HIGH
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	HIGH	HIGH
1,4-naphthoquinone	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
1,4-butanediol dimethacrylate	LOW (LogKOW = 3.191)
methylstyrene, mixed isomers	LOW (BCF = 110)
ethylene glycol dimethacrylate	LOW (LogKOW = 2.2088)
2-hydroxypropyl methacrylate	LOW (BCF = 3.2)
N,N-bis(2-hydroxyethyl)-p-toluidine	LOW (LogKOW = 1.09)
dipropoxy-p-toluidine	LOW (LogKOW = 2.0121)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	LOW (BCF = 1)
1,4-naphthoquinone	LOW (LogKOW = 1.71)

Mobility in soil

Ingredient	Mobility
1,4-butanediol dimethacrylate	LOW (KOC = 92.37)
ethylene glycol dimethacrylate	LOW (KOC = 27.15)
2-hydroxypropyl methacrylate	LOW (KOC = 10)
N,N-bis(2-hydroxyethyl)-p-toluidine	LOW (KOC = 10)
dipropoxy-p-toluidine	LOW (KOC = 10)
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	LOW (KOC = 607.5)
1,4-naphthoquinone	LOW (KOC = 16.05)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> ▶ 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. ▶ 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

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

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

Product name	Group

Continued...

Product name	Group
1,4-butanediol dimethacrylate	Not Available
methylstyrene, mixed isomers	Not Available
ethylene glycol dimethacrylate	Not Available
2-hydroxypropyl methacrylate	Not Available
N,N-bis(2-hydroxyethyl)-p-toluidine	Not Available
dipropoxy-p-toluidine	Not Available
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Not Available
1,4-naphthoquinone	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
1,4-butanediol dimethacrylate	Not Available
methylstyrene, mixed isomers	Not Available
ethylene glycol dimethacrylate	Not Available
2-hydroxypropyl methacrylate	Not Available
N,N-bis(2-hydroxyethyl)-p-toluidine	Not Available
dipropoxy-p-toluidine	Not Available
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	Not Available
1,4-naphthoquinone	Not Available

SECTION 15 Regulatory information

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

1,4-butanediol dimethacrylate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

methylstyrene, mixed isomers is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

ethylene glycol dimethacrylate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

2-hydroxypropyl methacrylate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australian Inventory of Industrial Chemicals (AIIC)

N,N-bis(2-hydroxyethyl)-p-toluidine is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

dipropoxy-p-toluidine is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

2,2,4-trimethyl-1,3-pentanediol diisobutyrate is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

1,4-naphthoquinone is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDLS	No (1,4-butanediol dimethacrylate; methylstyrene, mixed isomers; ethylene glycol dimethacrylate; 2-hydroxypropyl methacrylate; N,N-bis(2-hydroxyethyl)-p-toluidine; dipropoxy-p-toluidine; 2,2,4-trimethyl-1,3-pentanediol diisobutyrate; 1,4-naphthoquinone)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes

National Inventory	Status
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (1,4-butanediol dimethacrylate; N,N-bis(2-hydroxyethyl)-p-toluidine; dipropoxy-p-toluidine)
Vietnam - NCI	Yes
Russia - FBEPH	No (dipropoxy-p-toluidine)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	08/20/2021
Initial Date	04/20/2020

SDS Version Summary

Version	Date of Update	Sections Updated
3.1	10/29/2020	Hazards identification - Classification, Identification of the substance / mixture and of the company / undertaking - Supplier Information
4.1	08/20/2021	Classification change due to full database hazard calculation/update.

Other information

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

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

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AIIC: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory
 KECI: Korea Existing Chemicals Inventory
 NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
 NCI: National Chemical Inventory
 FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

This document is copyright.

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

TEL (+61 3) 9572 4700.