



EpiMax SAFETY DATA SHEET

Product Name **EPIMAX 777UHD COLOURED PART A**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	EPIMAX TECHNOLOGIES PTY LTD
Address	23 Hargraves Place, Wetherill Park, NSW, 2164 Australia
Telephone	1300 721 522
Email	info@epimax.com.au
Emergency	13 11 26
Synonym(s)	4078718 - PRODUCT CODE • 777UHD COLOURED PART A / BASE
Use(s)	TWO PART POLYURETHANE SYSTEM. USE WITH EPIMAX 777UHD FAMILY PART B
SDS Date	20/07/23

2. HAZARDS IDENTIFICATION

GHS Classifications	Not Applicable
Label Elements	Not Applicable
Hazard Statements	Not Applicable
Precautionary Statements	Not Applicable

UN No.	None Allocated	DG CLASS	None Allocated	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated		

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS NO.	Content
POLYMER DISPERSION	NOT AVAILABLE	NOT AVAILABLE	60-80%
SILICA AMORPHOUS, FUMED, CRYSTALLINE FREE	NOT AVAILABLE	112945-52-5	<7%
DIPROPYLENE GLYCOL MONOMETHYL ETHER	NOT AVAILABLE	34590-94-8	<5%

4. FIRST AID MEASURES

Eye	<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.
Inhalation	<p>If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.</p>
Skin	<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.
Ingestion	<p>If swallowed do NOT induce vomiting.</p> <ul style="list-style-type: none">- 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.
Special Treatment	<p>Treat symptomatically.</p>

5. FIRE FIGHTING MEASURES

Special Hazards	<p>Non-combustible liquid. There is no restriction on the type of extinguisher which may be used.</p>
Advice for firefighters	<ul style="list-style-type: none">- Alert Fire Brigade and tell them location and nature of hazard.- Wear breathing apparatus plus protective gloves in the event of a fire.- Prevent, by any means available, spillage from entering drains or water courses.- Use fire-fighting procedures suitable for surrounding area.- DO NOT approach containers suspected to be hot.- Cool fire exposed containers with water spray from a protected location.- If safe to do so, remove containers from path of fire.- Equipment should be thoroughly decontaminated after use.
Extinguishing Media	<p>Dry agent, carbon dioxide or water fog. Prevent contamination of drains or waterways</p>
Hazchem Code	<p>None Allocated</p>

6. ACCIDENTAL RELEASE MEASURES

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Spillage

Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable, labelled container for waste disposal.

7. STORAGE AND HANDLING

Storage

- **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.
- Avoid contact with moisture.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should

Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIONS

Exposure Std

INGREDIENT DATA

Source Ingredient Material name TWA STEL Peak Notes

Australia Exposure Standards

Dipropylene glycol monomethyl ether

(2-Methoxymethylethoxy) propanol

308 mg/m³ / 50 ppm

Not Available

Not Available

Sk

EMERGENCY LIMITS

Ingredient Material name TEEL-1 TEEL-2 TEEL-3

silica amorphous, fumed, crystalline free

Silica, amorphous fumed 18 mg/m³ 100 mg/m³ 630 mg/m³

dipropylene glycol monomethyl ether

Dipropylene glycol methyl ether 150 ppm 1700 ppm 9900 ppm

Ingredient Original IDLH Revised IDLH

polymer dispersion Not Available Not Available

silica amorphous, fumed, crystalline free

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N.E. mg/m³ / N.E. ppm 3,000 mg/m³
Dipropylene glycol monomethyl ether
Unknown mg/m³ / Unknown ppm 600 ppm
No biological limit allocated.

Biological Limits

Engineering Controls

Avoid inhalation. Use in well-ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

PPE

Wear splash-proof goggles, nitrile or viton (R) gloves, coveralls and a Type A (Organic vapour) respirator. If sanding dry product, wear: a Class P1 (Particulate) respirator. If spraying, with prolonged use, or if in confined areas, wear: impervious coveralls and an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	MILKY LIQUID	Solubility (water)	SOLUBLE
Odour	SLIGHT	Specific Gravity	1.04
pH	NOT AVAILABLE	% Volatiles	NOT AVAILABLE
Vapour Pressure	<2.3 MBAR AS WATER	Flammability	NON FLAMMABLE
Vapour Density	>1	Flash Point	NOT AVAILABLE
Boiling Point	>100°C	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE		
Autoignition Rate	NOT AVAILABLE	Decomposition Temperature	NOT AVAILABLE
Partition Coefficient	NOT AVAILABLE	Viscosity	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to avoid	Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), alkalis (eg. hydroxides), heat and ignition sources.
Hazardous Decomposition Products	May evolve toxic gases (carbon oxides, phenols, hydrocarbons) when heated to decomposition.
Hazardous Reactions	Hazardous polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health hazard summary	This product has the potential to cause adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Potential sensitising agent. Individuals with pre-existing respiratory impairment (eg asthmatics) or skin sensitivities may be more susceptible to adverse health effects.
Eye	Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

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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. Solutions containing isothiazolinones may produce corrosion of the mucous membranes and cornea. Instillation of 0.1 ml of an aqueous solution containing 560 ppm isothiazolinone into rabbit eye did not produce irritation whereas concentrations, typically around 3% and 5.5 %, were severely irritating or corrosive to the eye.. Symptoms included clouding of the cornea, chemosis and swelling of the eyelids.

Inhalation

The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

Skin

Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Solutions of 0.5% strength 1,2-benzisothiazoline-3-one (BIT) are irritating to the skin. Allergenic effects also begin at 0.05% and have been confirmed in a series of case and patch test studies. When the substance was applied to human volunteers under an occlusive patch the maximum tolerated doses was 0.05%. Five hours after application of 0.1% (1000 ppm) one person showed moderate erythema with papule development which was interpreted as a reaction to the sticking plaster; in four persons there was mild reddening of the skin. The reaction had ameliorated in several persons after 72 hours. A second application produced various severe dermal reactions (erythema and papules) in 8 persons. A third application to several of the group produced erythema. Provocation tests with BIT showed the material to be sensitising. Of 20 metal workers with dermatitis, 4 were shown to have been sensitised to BIT in cutting oils. Cases of contact eczema in workers producing polyacrylate emulsions for paints and wax polish, in which BIT was the preservative, have been described. Epicutaneous challenge tests to BIT were positive. Similar findings have been described in the paper-manufacturing industry, in the rubber industry, in the control laboratory of a chemical plant and among workers producing ceramic moulds in which BIT was added to the mould oil. Aqueous solutions of isothiazolinones may be irritating or even corrosive depending on concentration. Solutions containing more than 0.5% (5000 ppm active substance) may produce severe irritation of human skin whilst solutions containing more than 100 ppm may irritate the skin.

Open cuts, abraded or irritated skin should not be exposed to this material

Ingestion

The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.

Isothiazolinones are moderately to highly toxic by oral administration. The major signs of toxicity were severe gastric irritation, lethargy, and ataxia

Toxicity Data

There is no toxicological information available for this product.

12. ECOLOGICAL INFORMATION

Other adverse effects

Very toxic to aquatic organisms.

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. The isothiazolinones are very toxic to marine organisms (fish, Daphnia magna and algae)

The high water solubility and low log Kow values of several chlorinated and non-chlorinated indicate a low potential for bioaccumulation. Studies of 5-chloro-2-methyl-4-isothiazolin-3-one (CMI) in bluegill sunfish (*Lepomis macrochirus*) show BCF values of 102, 114 and 67 at

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nominal concentrations of 0.02, 0.12 and 0.8 mg/l. The BCF for 2-methyl-4-isothiazolin-3-one (MI) was determined at 2.3 at a nominal concentration of 0.12 mg/l. Primary biodegradation of MI and CMI occurred with half-lives of less than 24 hours in aerobic and anoxic sediments, and within a period of less than one week the parent compounds were depleted to very low levels that could not be clearly distinguished from analytical artifacts. The ultimate aerobic biodegradability of both MI and CMI attained levels of > 55% within 29 days. Furthermore, the proposed metabolites of MI and CMI are considered to have a low aquatic toxicity on the basis of QSAR estimates and the measured toxicity of the structurally related N-(n-octyl) malonamic acid.

DO NOT discharge into sewer or waterways.

13. DISPOSAL CONSIDERATIONS

Waste disposal

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling

Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

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.

Legislation

Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD THE CRITERIA OF THE ADG CODE

Shipping Name	NONE ALLOCATED				
UN No.	NONE ALLOCATED	DG CLASS	NONE ALLOCATED	Subsidiary Risk(s)	NONE ALLOCATED
Packing Group	NONE ALLOCATED	Hazchem Code	NONE ALLOCATED	GTEPG	NONE ALLOCATED

15. REGULATORY INFORMATION

Poison Schedule

Classified as a Schedule 5 (S5) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS

All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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Additional information

This product is used in conjunction with EpiMax 777UHD Family PART B.

WELDING - SANDING - CUTTING DRIED OR CURED PRODUCT: If sanding, cutting or welding dried or cured product, adverse health effects may be avoided by the use of appropriate engineering controls and/or personal protective equipment. If welding, wear a Class P2 (Metal fume) respirator and depending on the nature of the surface being welded, additional protection (eg. for organic vapours/acid gas) may also be required. A Class P1 (Particulate) respirator is recommended if dust is generated.

EPOXY - PHENOXY RESINS AND POLYURETHANES: Where spray painting with two or more component epoxy resins or polyurethane paints is undertaken, an employee shall wear a air-line respirator, full length chemically resistant coveralls and gloves. Further, if an individual is to enter an enclosed booth where a vapour or gas curing process is occurring, an air-line respirator is required. Once cured, these resins are considered non-toxic.

ABBREVIATIONS:

ACGIH - American Conference of Industrial Hygienists.

ADG - Australian Dangerous Goods.

BEI - Biological Exposure Indice(s).

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EC No - European Community Number.

HSNO - Hazardous Substances and New Organisms.

IARC - International Agency for Research on Cancer.

mg/m³ - Milligrams per Cubic Metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

STEL - Short Term Exposure Limit.

SWA - Safe Work Australia.

TWA - Time Weighted Average.



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Product Name **EPIMAX 777UHD FAMILY PART B**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	EPIMAX TECHNOLOGIES PTY LTD
Address	23 Hargraves Place, Wetherill Park, NSW, 2164 Australia
Telephone	1300 721 522
Fax	(02) 9904 3207
Emergency	1300 721 522
Synonym(s)	5078718 - PRODUCT CODE • 777UHD FAMILY PART B
Use(s)	ACTIVATOR • TWO COMPONENT POLYURETHANE SYSTEM
SDS Date	18/04/22

2. HAZARDS IDENTIFICATION

GHS Classifications	Flammable Liquid Category: 4 Acute Toxicity (Dermal) Category: 4 Acute Toxicity (inhalation) Category: 4 Skin Sensitisation Category: 1 Specific Target Organ Toxicity- Single Exposure Category: 3 Acute Aquatic Hazard Category: 3 Chronic Aquatic Hazard Category: 3
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Hazard Statements

H227	Combustible liquid
H312	Harmful in contact with skin
H332	Harmful if inhaled
H317	May cause an allergic skin reaction
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

Prevention Statements

P210	Keep away from heat/spark/open flames/hot surfaces – No smoking
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/protective clothing/eye protection/ face protection
P261	Avoid breathing mist/vapours/spray
P273	Avoid release to the environment
P272	Contaminated work clothing should not be allowed out of the workplace

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Response Statements

P363	Wash contaminated clothing before reuse
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P312	Call a POISON CENTER or doctor / physician if you feel unwell
P333+P313	If skin irritation or rash occurs: Get medical advice / attention
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Storage Statements

P403+P235	Store in a well-ventilated place. Keep cool
P405	Store locked up

Disposal Statements

P501	Dispose of contents/container in accordance with local regulations
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UN No.	None Allocated	DG CLASS	None Allocated	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	None Allocated		

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS NO.	Content
HEXAMETHYLENE DIISOCYANATE POLYMER	NOT AVAILABLE	160994-68-3	70%
HEXAMETHYLENE DIISOCYANATE	NOT AVAILABLE	822-06-0	<0.1%
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	NOT AVAILABLE	112-07-2	N/A

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Airline respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
Ingestion	Give a glass of water. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
Special Treatment	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Special Hazards	Combustible. May evolve toxic gases (carbon oxides, phenols, hydrocarbons) when heated to decomposition. Small quantities of water in contact with hot liquid may react violently with generation of a large volume of rapidly expanding hot sticky semi-solid foam
Advice for firefighters	Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment

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including Self Contained Breathing Apparatus (SCBA) when combating fire. Use water fog to cool intact containers and nearby storage areas.

Extinguishing Media

Dry agent, carbon dioxide or foam. Prevent contamination of drains or waterways.

Hazchem Code

None Allocated

6. ACCIDENTAL RELEASE MEASURES

Spillage

Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all ignition sources.

7. STORAGE AND HANDLING

Storage

Store tightly sealed in a cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be bunded and have appropriate fire protection and ventilation systems. Store as a Class C1 Combustible Liquid (AS1940).

Avoid reaction with water, alcohols and detergent solutions.

Isocyanates and Thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, strong bases, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidisers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerisation reactions in these materials.

Isocyanates easily form adducts with carbodiimides, isothiocyanates, ketenes, or with substrates containing activated CC or CN bonds.

Some isocyanates react with water to form amines and liberate carbon dioxide. This reaction may also generate large volumes of foam and heat. Foaming in confined spaces may produce pressure in confined spaces or containers. Gas generation may pressurise drums to the point of rupture.

Do NOT reseal container if contamination is expected

Open all containers with care

Precautions for safe handling

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.

DO NOT enter confined spaces until atmosphere has been checked.

Avoid smoking, naked lights or ignition sources.

Avoid contact with incompatible materials.

When handling, **DO NOT** eat, drink or smoke.

Keep containers securely sealed when not in use.

Avoid physical damage to containers.

Always wash hands with soap and water after handling.

Work clothes should be laundered separately.

Use good occupational work practice.

Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

for commercial quantities of isocyanates:

Isocyanates should be stored in adequately bunded areas. Nothing else should be kept within the same bunding.

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Pre-polymers need not be segregated. Drums of isocyanates should be stored under cover, out of direct sunlight, protected from rain, protected from physical damage and well away from moisture, acids and alkalis. Where isocyanates are stored at elevated temperatures to prevent solidifying, adequate controls should be installed to prevent the high temperatures and precautions against fire should be taken. Where stored in tanks, the more reactive isocyanates should be blanketed with a non-reactive gas such as nitrogen and equipped with absorptive type breather valve (to prevent vapour emissions).. Transfer systems for isocyanates in bulk storage should be fully enclosed and use pump or vacuum systems. Warning signs, in appropriate languages, should be posted where necessary. Areas in which polyurethane foam products are stored should be supplied with good general ventilation. Residual amounts of unreacted isocyanate may be present in the finished foam, resulting in hazardous atmospheric concentrations. Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIONS

Exposure Stds

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure	hexamethylene diisocyanate	Isocyanates, all (as-NCO)	0.02 mg/m3	0.07 mg/m3	Not Available	Sen
Australia Exposure	ethylene glycol monobutyl ether	2-Butoxyethyl acetate	133 mg/m3 / 20 ppm	333 mg/m3 /	Not Available	Sk

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
hexamethylene diisocyanate	Hexamethylene diisocyanate; (1,6-Diisocyanatohexane)	0.005 ppm	0.02 ppm	0.8 ppm
ethylene glycol monobutyl ether acetate	Butoxyethanol acetate, 2-; (Ethylene glycol monobutyl ether acetate)	20 ppm	20 ppm	73 ppm

Biological Limits

No biological limit allocated.

Engineering Controls

All processes in which isocyanates are used should be enclosed wherever possible. Total enclosure, accompanied by good general ventilation, should be used to keep atmospheric concentrations below the relevant exposure standards. If total enclosure of the process is not feasible, local exhaust ventilation may be necessary. Local exhaust ventilation is essential where lower molecular weight isocyanates (such as TDI or HDI) is used or where isocyanate or polyurethane is sprayed. Where other isocyanates or pre-polymers are used and aerosol formation cannot occur, local exhaust ventilation may not be necessary if the atmospheric concentration can be kept below the relevant exposure standards. Where local exhaust ventilation is installed, exhaust vapours should not be vented to the exterior in such a manner as to create a hazard.

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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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

Spraying of material or material in admixture with other components must be carried out in conditions conforming to local state regulations (AS/NZS 4114, UNI EN 12215:2010, ANSI/AIHA Z9.3–2007 or national equivalent).

Local exhaust ventilation with full face positive-pressure air supplied breathing apparatus (hood or helmet type) is required.

Spraying should be performed in a spray booth fitted with an effective exhaust system which complies with local environmental legislation.

The spray booth area must be isolated from unprotected personnel whilst spraying is in progress and until all spraying mist has cleared.

NOTE: Isocyanate vapours will not be adequately absorbed by organic vapour respirators. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

PPE

Wear splash-proof goggles, nitrile or viton (R) gloves, coveralls and a Type A (Organic vapour) respirator. If sanding dry product, wear: a Class P1 (Particulate) respirator. If spraying, with prolonged use, or if in confined areas, wear: impervious coveralls and an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	CLEAR LIQUID	Solubility (water)	SOLUBLE
Odour	SLIGHT	Specific Gravity	1.04
pH	NOT AVAILABLE	% Volatiles	NOT AVAILABLE
Vapour Pressure	< 23 MBAR AS WATER	Flammability	CLASS C1 COMBUSTIBLE
Vapour Density	> 1	Flash Point	> 76°C (cc)
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	NOT AVAILABLE
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT AVAILABLE
Evaporation Rate	NOT AVAILABLE		
Autoignition Rate	NOT AVAILABLE	Decomposition Temperature	NOT AVAILABLE
Partition Coefficient	NOT AVAILABLE	Viscosity	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to avoid	Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), alkalis (eg. hydroxides), heat and ignition sources.

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Hazardous Decomposition Products	May evolve toxic gases (carbon oxides, phenols, hydrocarbons) when heated to decomposition.
Hazardous Reactions	Hazardous polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health hazard summary	Irritant - low to moderate toxicity. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. May cause sensitisation by skin contact. The cured product is considered non-toxic.
Eye	Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. 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.
Inhalation	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. 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 system.</p> <p>The vapour/mist may be highly irritating to the upper respiratory tract and lungs; the response may be severe enough to produce bronchitis and pulmonary oedema. Possible neurological symptoms arising from isocyanate exposure include headache, insomnia, euphoria, ataxia, anxiety neurosis, depression and paranoia. Gastrointestinal disturbances are characterised by nausea and vomiting. Pulmonary sensitisation may produce asthmatic reactions ranging from minor breathing difficulties to severe allergic attacks; this may occur following a single acute exposure or may develop without warning for several hours after exposure. Sensitized people can react to very low doses, and should not be allowed to work in situations allowing exposure to this material. Continued exposure of sensitised persons may lead to possible long term respiratory impairment.</p> <p>Inhalation hazard is increased at higher temperatures.</p>
Skin	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>Limited 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.</p>
Ingestion	The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.

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High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.

Toxicity Data

For the glycol ether
Oral LD50 (rat): 1480 mg/Kg,
Dermal LD50 (rabbit): 490 mg/Kg, Inhalation
LC50 (mouse): 700 ppm/7 hrs,
SKIN (rat): LD50 490 mg/Kg

12. ECOLOGICAL INFORMATION

Other adverse effects

Harmful 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.

For polyisocyanates:

Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected. The resulting polyurea is more or less inert and, due to its molecular size, not bioavailable. Within the limits of water solubility, polyisocyanates have a low to moderate toxicity for aquatic organisms. Hydrolysis would represent the primary fate mechanism for the majority of the commercial isocyanate monomers, but, is tempered somewhat by the lack of water solubility. In the absence of hydrolysis, sorption to solids (e.g., sludge and sediments) will be the primary mechanism of removal.

Biodegradation is minimal for most compounds and volatilisation is negligible. Atmospheric degradation is not expected with removal from air occurring by washout or dry deposition. Volatilisation from surface waters (e.g., lakes and rivers) is expected to take years. In wastewater treatment this process is not expected to be significant.

Review of the estimated properties of the isocyanates suggest that sorption is the primary removal mechanism in the ambient environment and in wastewater treatment in the absence of significant hydrolysis. Sorption to solids in wastewater treatment is considered strong to very strong for most compounds. Sorption to sediments and soils in the ambient environment is very strong in most instances. Migration to groundwater and surface waters is

not expected due to sorption or hydrolysis.

Hydrolysis of the $N=C=O$ will occur in less than hours in most instances and within minutes for more than 90% of the commercial isocyanates. However, the low to very low solubility of these substances will generally lessen the effectiveness of hydrolysis as a fate pathway. But hydrolysis should be considered one of the two major fate processes for the isocyanates.

Aerobic and/or anaerobic biodegradation of the isocyanates is not expected to occur at significant levels. Most of the substances take several months to degrade.

Degradation of the hydrolysis products will occur at varying rates depending on the moiety formed.

DO NOT discharge into sewer or waterways.

13. DISPOSAL CONSIDERATIONS

Waste disposal

Containers may still present a chemical hazard/ danger when empty.
Return to supplier for reuse/ recycling if possible.
Otherwise:

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If container cannot be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

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.

DO NOT recycle spilled material.

Consult State Land Waste Management Authority for disposal.

Neutralise spill material carefully and decontaminate empty containers and spill residues with 10% ammonia solution plus

detergent or a proprietary decontaminant prior to disposal.

DO NOT seal or stopper drums being decontaminated as CO₂ gas is generated and may pressurise containers.

Puncture containers to prevent re-use.

Bury or incinerate residues at an approved site.

Legislation

Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD THE CRITERIA OF THE ADG CODE

Shipping Name	NONE ALLOCATED				
UN No.	NONE ALLOCATED	DG CLASS	NONE ALLOCATED	Subsidiary Risk(s)	NONE ALLOCATED
Packing Group	NONE ALLOCATED	Hazchem Code	NONE ALLOCATED	GTEPG	NONE ALLOCATED

15. REGULATORY INFORMATION

Poison Schedule

A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS

All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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Additional information

This product is used in conjunction with EpiMax 777UHD GLOSS / MATT / COLOURED PART A.

WELDING - SANDING - CUTTING DRIED OR CURED PRODUCT: If sanding, cutting or welding dried or cured product, adverse health effects may be avoided by the use of appropriate engineering controls and/or personal protective equipment. If welding, wear a Class P2 (Metal fume) respirator and depending on the nature of the surface being welded, additional protection (eg. for organic vapours/acid gas) may also be required. A Class P1 (Particulate) respirator is recommended if dust is generated.

EPOXY - PHENOXY RESINS AND POLYURETHANES: Where spray painting with two or more component epoxy resins or polyurethane paints is undertaken, an employee shall wear a air-line respirator, full length chemically resistant coveralls and gloves. Further, if an individual is to enter an enclosed booth where a vapour or gas curing process is occurring, an air-line respirator is required. Once cured, these resins are considered non toxic.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken.

Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:

ACGIH - American Conference of Industrial Hygienists.

ADG - Australian Dangerous Goods.

BEI - Biological Exposure Indice(s).

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EC No - European Community Number.

HSNO - Hazardous Substances and New Organisms.

IARC - International Agency for Research on Cancer.

mg/m³ - Milligrams per Cubic Metre.

NOS - Not Otherwise Specified.

pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).

ppm - Parts Per Million.

RTECS - Registry of Toxic Effects of Chemical Substances.

STEL - Short Term Exposure Limit.

SWA - Safe Work Australia.

TWA - Time Weighted Average.