

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name MCU-SHIELDCOAT
Synonyms MCU SHIELDCOAT • SHIELDCOAT

1.2 Uses and uses advised against

Uses COATING • PAINT

1.3 Details of the supplier of the product

Supplier name MCU COATINGS PTY LIMITED
Address 31 Hayes Street, Sydney , NSW, 2089, AUSTRALIA
Telephone 1800 325 041
Email info@mcu-coatings.com.au
Website <http://www.mcu-coatings.com.au>

1.4 Emergency telephone numbers

Emergency 13 11 26 (PIC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Flammable Liquids: Category 3

Health Hazards

Skin Corrosion/Irritation: Category 2
Skin Sensitisation: Category 1
Serious Eye Damage / Eye Irritation: Category 2A
Acute Toxicity: Inhalation: Category 4
Respiratory Sensitisation: Category 1
Specific Target Organ Toxicity (Single Exposure): Category 3 (Respiratory Irritation)

Environmental Hazards

Aquatic Toxicity (Chronic): Category 3

2.2 GHS Label elements

Signal word DANGER

Pictograms



PRODUCT NAME MCU-SHIELDCOAT**Hazard statements**

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Prevention statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response statements

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment is advised - see first aid instructions.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.

Storage statements

P403 + P233 + P235	Store in a well-ventilated place. Keep cool. Keep container tightly closed.
P405	Store locked up.

Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
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2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
HEXAMETHYLENE DIISOCYANATE, OLIGOMERS	28182-81-2	500-060-2	<50%
2-METHOXY-1-METHYLETHYL ACETATE	108-65-6	203-603-9	1 to 20%
3-ISOCYANATOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYL ISOCYANATE, OLIGOMERS	53880-05-0	500-125-5	<20%
N-BUTYL ACETATE	123-86-4	204-658-1	<20%
XYLENE	1330-20-7	215-535-7	10 to 20%
ETHYLBENZENE	100-41-4	202-849-4	<10%
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC (<0.1% W/W BENZENE)	64742-95-6	265-199-0	2.5 to 10%
1,2,4-TRIMETHYLBENZENE	95-63-6	202-436-9	1 to 2.5%
1-METHYL 1,2,2,6,6-PENTAMETHYLPYPERIDIN-4-YL DECANEDIOATE BIS(1,2,2,6,6-PENTAMETHYLPYPERIDIN-4-YL) DECANEDIOATE	1065336-91-5	915-687-0	0.25 to 2.5%
2-HEPTANONE	110-43-0	203-767-1	1 to 2.5%
ACRYLIC ACID, PROPYLENEBIS (OXYPROPYLENE) ESTER	42978-66-5	256-032-2	1 to 2.5%
CUMENE (ISOPROPYL BENZENE)	98-82-8	202-704-5	<2.5%

PRODUCT NAME MCU-SHIELDCOAT

ISOPHORONE DIISOCYANATE	4098-71-9	223-861-6	<2.5%
HYDROXYPHENYL BENZOTRIAZOLE DERIVATIVE	104810-47-1	400-830-7	0.1 to 1%
HEXAMETHYLENE DIISOCYANATE (HMDI)	822-06-0	212-485-8	<0.5%
ADDITIVE(S)	-	-	Remainder

Ingredient Notes Isocyanates react within the solution during the manufacturing process and dissipate into their constituent elements. Any free isocyanates remaining in the final product are only present in trace concentrations.

4. FIRST AID MEASURES

4.1 Description of 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 Air-line 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	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
First aid facilities	Eye wash facilities and safety shower should be available.

4.2 Most important symptoms and effects, both acute and delayed

May cause sensitisation by inhalation and skin contact. Individuals with pre-existing respiratory impairment (eg asthmatics) or known sensitivities to isocyanates should avoid exposure.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways. Do not use water jets.

5.2 Special hazards arising from the substance or mixture

Flammable. May evolve highly toxic gases when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, pilot lights, heaters, naked lights, etc when handling. Earth containers when dispensing fluids.

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

5.4 Hazchem code

- 3Y
- 3 Alcohol Resistant Foam is the preferred firefighting medium but, if it is not available, normal foam can be used.
- Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

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 sources of ignition.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, 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 have appropriate ventilation and fire protection systems. Store between 5°C and 35°C.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
1,2,4-Trimethylbenzene (as Trimethyl benzene)	SWA [AUS]	25	123	--	--
1-Methoxy-2-propanol acetate	SWA [AUS]	50	274	100	548
Butyl acetate	SWA [Proposed]	50	270	200	950
Cumene	SWA [AUS]	25	125	75	375
Cumene	SWA [Proposed]	0.1	0.5	--	--
Ethyl benzene	SWA [AUS]	100	434	125	543
Ethyl benzene	SWA [Proposed]	20	87	--	--
Isocyanates, (pol-) (as-NCO)	SWA [Proposed]	--	0.0001	--	--
Isocyanates, all (as-NCO)	SWA [AUS]	--	0.02	--	0.07
Methyl n-amyl ketone	SWA [AUS]	50	233	--	--
Mineral spirits	SWA [Proposed]	50	295	100	593
Trimethylbenzene (all isomers)	SWA [Proposed]	20	100	--	--
Xylene	SWA [AUS]	80	350	150	655
n-Butyl acetate	SWA [AUS]	150	713	200	950

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear splash-proof goggles.
Hands	Wear PVA or Viton® gloves.
Body	Wear coveralls. If spraying, with prolonged use, or if in confined areas, wear impervious coveralls.
Respiratory	Wear a Type A (Organic vapour) respirator complying with an approved standard if a risk assessment indicates this is necessary.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	LIQUID
Odour	CHARACTERISTIC ODOUR
Flammability	FLAMMABLE
Flash point	38.5°C
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Relative density	1.07
Solubility (water)	INSOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT AVAILABLE
Lower explosion limit	NOT AVAILABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid exposure to moisture.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), alcohols, amines, heat and ignition sources. Reacts with water or moisture, generating carbon dioxide, which may cause container rupture.

10.6 Hazardous decomposition products

May evolve highly toxic gases when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Harmful if inhaled.

Information available for the ingredients:

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
HEXAMETHYLENE DIISOCYANATE, OLIGOMERS	> 5,000 mg/kg (rat)	> 2,000 mg/kg (rat)	151 mg/m ³ (rat)
2-METHOXY-1-METHYLETHYL ACETATE	8532 mg/kg (rat)	> 5000 mg/kg (rabbit)	--
N-BUTYL ACETATE	10760 mg/kg (rat)	14112 mg/kg (rabbit)	> 21 mg/L/4hrs (rat)
XYLENE	> 2000 mg/kg (rat) (AICIS)	> 1700 mg/kg (rabbit)	20 mg/L/4h (rat) (AICIS)
ETHYLBENZENE	3500 mg/kg (rat)	17800 mg/kg (rabbit)	17.8 mg/l/4 hours (rat)
SOLVENT NAPHTHA (PETROLEUM), LIGHT AROMATIC (<0.1% W/W BENZENE)	> 5000 mg/kg (OECD TG 401)	> 2000 mg/kg (OECD TG 402)	> 5610 mg/m ³ (OECD TG 403)
1,2,4-TRIMETHYLBENZENE	6000 mg/kg (rat)	--	18 g/m ³ /4hrs (rat)
2-HEPTANONE	730 mg/kg (mouse)	12.6 ml/kg (rabbit)	--
ACRYLIC ACID, PROPYLENEBIS (OXYPROPYLENE) ESTER	6,800 mg/kg (rat)	> 2,000 mg/kg (rabbit)	--
CUMENE (ISOPROPYL BENZENE)	1400 mg/kg (rat)	12300 ug/kg (rabbit)	24700 mg/m ³ /2H (mouse)
ISOPHORONE DIISOCYANATE	4825 mg/kg (rat)	1060 mg/kg (rat)	123 mg/m ³ /4 hours (rat)
HEXAMETHYLENE DIISOCYANATE (HMDI)	350 mg/kg (mouse)	570 uL/kg (rabbit)	0.124 mg/L/4h (rat) (vapour)

Skin	Causes skin irritation. Contact may result in irritation, drying and defatting of the skin, rash and dermatitis.
Eye	Causes serious eye irritation. Contact may result in irritation, lacrimation, pain and redness.
Sensitisation	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to low concentrations of isocyanates may cause asthma-like symptoms, including tightness of the chest, coughing, wheezing and shortness of breath.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen. Due to the trace concentrations of free isocyanates within the product, the risk of carcinogenic effects is significantly reduced as the isocyanates react within the solution during the manufacturing process and dissipate into their constituent elements. Cumene is classified as possibly carcinogenic to humans (IARC Group 2B), however present in concentrations below that required to trigger classification. Ethylbenzene is classified as possibly carcinogenic to humans (IARC Group 2B).
Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Over exposure may result in irritation of the nose and throat, coughing, nausea, dizziness and headache. High level exposure may result in breathing difficulties and unconsciousness.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. Repeated exposure may damage the respiratory system resulting in irritation of the respiratory tract and lung tissue damage.
Aspiration	Aspiration into the lungs may result in chemical pneumonitis and pulmonary oedema.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Harmful to aquatic life with long lasting effects. However, upon exposure to atmospheric moisture, this product will set within 10 minutes and will continue to cure if immersed in water, thus rendering it inert.

12.2 Persistence and degradability

Persistence is unlikely based on information available.

12.3 Bioaccumulative potential

The substance is inert when cured and will not be absorbed and accumulate in tissues.

12.4 Mobility in soil

Cured products are immobile.

12.5 Other adverse effects

Isocyanates will react with water producing carbon dioxide and forming a solid mass (polyurea) which is insoluble. Product will not accumulate or biomagnify in the environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal	Cure any waste material and dispose of as non-hazardous solid waste as per local regulations. Product is fully cured in 7-10 days. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required).
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1263	1263	1263
14.2 Proper Shipping Name	PAINT	PAINT	PAINT
14.3 Transport hazard class	3	3	3
14.4 Packing Group	III	III	III

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

Hazchem code	●3Y
GTEPG	3C1
EmS	F-E, S-E

15. REGULATORY INFORMATION

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

Poison schedule	Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).
Inventory listings	AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals) All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information	<p>Spillage decontaminants for isocyanates: For TDI or HMDI, use a mixture of sawdust (20%), silica sand (or china clay or Fuller's Earth) (40%) and a breakdown solution (40%). The breakdown solution is made up of water (90%), non-ionic surfactant (2%) and concentrated ammonia (8% v/v). For spillage of any other isocyanate a solid absorbent of silica sand or sawdust may be used.</p> <p>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 full face 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.</p>
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PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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