

# SAFETY DATA SHEET



Revision date: 26-May-2023

Revision Number 1

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** Hardcoat D65 Part A

**Product Code(s)** 000000067051

### Other means of identification

### Recommended use of the chemical and restrictions on use

**Recommended use** Component of a polyurethane system.

**Uses advised against** No information available

### Supplier

Liquimix Pty Ltd  
ABN: 32 062 887 585  
Street Address: 24 Rosa Place  
Richlands QLD 4077  
Australia

Telephone Number: +61 7 3277 6655

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

<b>Acute toxicity - Inhalation (Vapors)</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2A
<b>Respiratory sensitization</b>	Category 1
<b>Skin sensitization</b>	Category 1
<b>Carcinogenicity</b>	Category 2
<b>Reproductive toxicity</b>	Category 2
<b>Specific target organ toxicity (single exposure)</b>	Category 3
<b>Specific target organ toxicity (repeated exposure)</b>	Category 2

### SIGNAL WORD

Danger

**Label elements**

Exclamation mark  
Health hazard



**Hazard statements**

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  
H351 - Suspected of causing cancer  
H361 - Suspected of damaging fertility or the unborn child if inhaled  
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use only outdoors or in a well-ventilated area  
Do not breathe fume, gas, mist, vapours, spray  
Do not eat, drink or smoke when using this product  
In case of inadequate ventilation wear respiratory protection  
Wear protective gloves / protective clothing / eye protection / face protection  
Wash hands and face thoroughly after handling  
Contaminated work clothing should not be allowed out of the workplace

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other hazards which do not result in classification**

Poisons Schedule (SUSMP) 6

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No.	Weight-%
Isocyanic acid, polymethylene polyphenylene ester	9016-87-9	30-60%
Diphenylmethane-4,4-diisocyanate	101-68-8	10-30%
Tris(2-chloroisopropyl) phosphate	13674-84-5	<10%
Polyurethane prepolymer	-	0 - 10%

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.
<b>Inhalation</b>	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. Immediately give oxygen if victim turns blue (lips, ears, fingernails). If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Seek immediate medical attention/advice.
<b>Skin contact</b>	Immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. May cause an allergic skin reaction. Allergic symptoms may be delayed. Wash contaminated clothing before reuse.
<b>Ingestion</b>	Clean mouth with water. Drink 1 or 2 glasses of water. Call a physician or poison control center immediately.

### Most important symptoms and effects, both acute and delayed

**Symptoms** No information available.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Treat symptomatically. Symptoms may be delayed.

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, sand, earth, water spray or regular foam.

**Unsuitable extinguishing media** No information available.

### Specific hazards arising from the chemical

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous combustion products** Carbon oxides. Isocyanates. Hydrogen cyanide.

### Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation. Do not breathe fume, gas, mist, vapours, spray. Use personal protective equipment as required. Avoid contact with skin, eyes, and clothing. Do not eat, drink or smoke when using this product.

**Other information** Extremely slippery when spilled.

**For emergency responders** Use personal protection recommended in Section 8.

#### **Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

#### **Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

**Methods for cleaning up** Avoid breathing dust or spray mist. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labelled containers. Decontaminate spill area with a solution of 10% sodium bicarbonate. After cleaning, flush away traces with water.

## **7. HANDLING AND STORAGE**

#### **Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not breathe fume, gas, mist, vapours, spray. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

#### **Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place. Protect from moisture. Store locked up.

**Incompatible materials** Oxidizing agents.

**Poisons Schedule (SUSMP)** 6

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Control parameters**

#### **Exposure Limits**

Chemical name	Australia	ACGIH TLV
Isocyanic acid, polymethylene polyphenylene ester 9016-87-9	0.02 mg/m <sup>3</sup> 0.07 mg/m <sup>3</sup> STEL	

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Appropriate engineering controls

#### Engineering controls

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, RESPIRATOR.



#### Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

#### Skin and body protection

Protective shoes or boots. Overalls.

#### Hand protection

Wear suitable gloves.

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Use appropriate respiratory protection. If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

#### Environmental exposure controls

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Amber to Brown
Odor	No information available
Odor threshold	No information available

### Property

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	> 250°C	None known
Flash point	> 150°C	CC (closed cup)

Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.23	None known
Water solubility	Insoluble in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	800 mPa (25°C)	None known
Dynamic viscosity	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity No information available.

Chemical stability

Stability Decomposes in contact with water.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight.

Incompatible materials

Incompatible materials Oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides.

**11. TOXICOLOGICAL INFORMATION**Acute toxicityInformation on likely routes of exposure

Product Information No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

<b>Inhalation</b>	Irritating to respiratory system. May cause sensitization by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Skin contact</b>	Causes skin irritation. May cause allergic skin reaction in susceptible individuals.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
<b>Symptoms</b>	No information available.

**Numerical measures of toxicity - Product Information**

No information available

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Isocyanic acid, polymethylene polyphenylene ester	= 49 g/kg ( Rat )	> 9.4 g/kg ( Rabbit ) > 9400 mg/kg ( Rabbit )	= 490 mg/m <sup>3</sup> ( Rat ) 4 h
Diphenylmethane-4,4-diisocyanate	= 31600 mg/kg ( Rat ) = 9200 mg/kg ( Rat )	-	= 369 mg/m <sup>3</sup> ( Rat ) 4 h
Tris(2-chloroisopropyl) phosphate	= 1500 mg/kg ( Rat )	> 5000 mg/kg ( Rabbit )	> 5.05 mg/L ( Rat ) 4 h

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	May cause sensitization by inhalation and skin contact.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen.

Chemical name	Australia
Isocyanic acid, polymethylene polyphenylene ester - 9016-87-9	Carc. 2
Diphenylmethane-4,4-diisocyanate - 101-68-8	Carc. 2

<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.
<b>STOT - single exposure</b>	May cause respiratory irritation.
<b>STOT - repeated exposure</b>	May cause damage to organs.
<b>Aspiration hazard</b>	No information available.

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

**Ecotoxicity** The environmental impact of this product has not been fully investigated. Avoid contaminating waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Tris(2-chloroisopropyl) phosphate	EC50: =45mg/L (72h, <i>Desmodesmus subspicatus</i> ) EC50: =4mg/L (96h, <i>Pseudokirchneriella subcapitata</i> )	LC50: =56.2mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =98mg/L (96h, <i>Pimephales promelas</i> ) LC50: =30mg/L (96h, <i>Poecilia reticulata</i> ) LC50: =180mg/L (96h, <i>Leuciscus idus</i> )	-	EC50: =63mg/L (48h, <i>Daphnia magna</i> )

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** Not expected to bioaccumulate.

Chemical name	Partition coefficient
Tris(2-chloroisopropyl) phosphate	2.59

**Mobility**

**Mobility in soil** No information available.

**Other adverse effects****13. DISPOSAL CONSIDERATIONS****Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Dispose of in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION****ADG**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

**IATA**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

**IMDG**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**



**National regulations****Australia**

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

See section 8 for national exposure control parameters

**Poisons Schedule (SUSMP)** 6

Chemical name	National pollutant inventory
Diphenylmethane-4,4-diisocyanate - 101-68-8	10 tonne/yr Threshold category 1

**International Inventories**

**AIIC** This material is listed on the Australian Inventory of Industrial Chemicals.

**Legend:**

**AIIC- Australian Inventory of Industrial Chemicals**

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**16. OTHER INFORMATION**

Supplier Safety Data Sheet 04/ 2021

**Reason(s) For Issue:** Revised Primary SDS

**Issuing Date:** 26-May-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

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Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian Industrial Chemicals Introduction Scheme (AICIS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
RTECS (Registry of Toxic Effects of Chemical Substances)  
World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Liquimix Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their Liquimix representative or Liquimix Pty Ltd at the contact details on page 1.**

**Liquimix Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**End of Safety Data Sheet**