

# SAFETY DATA SHEETS (SDS)

## Enviro Prime P2 Part B



Version: 4

Issued by: Envirosystems Technologies

Date of Issue: April 2017

Hazard Identifiers



### SECTION 1 – IDENTIFICATION OF MATERIAL & SUPPLIER

- 1.1 Product Name:** Enviro Prime P2 Part B  
**Manufacturer's Product Code:** N/A
- 1.2 Recommended Use:** Part B of a two component primer
- 1.3 Company:** Envirosystems Technologies Pty Ltd  
**Address:** 295 Princes Highway St Peters, NSW 2044.  
**Website:** www.envirosystems.com.au  
**Telephone:** +61 2 85958699 (business hours)  
**Fax:** +61 2 85958660
- 1.4 Emergency Telephone:** Info Safe – 1800 638 556, Poisons Centre – 131126
- Other Information:** All information in this SDS is to the best of our knowledge at time of publication. Users of this product should fully review this SDS prior to use to ensure best safety practices. Further information and or clarification can be obtained by contacting our technical department on the above telephone number.

### SECTION 2 – HAZARDS IDENTIFICATION

- 2.1 Hazard Classification:** Classified as **Hazardous** according to WHS Regulations, Australian GHS criteria and a **Non-Dangerous Goods** according to the Australian Dangerous Goods Code.

Class	Category
Acute Toxicity Inhalative	4
Skin Corrosion/Irritation	2
Serious eye damage/eye irritation	2
Skin Sensitization	1
Respiratory Sensitization	1
Carcinogenicity	2
Specific target organ toxicity (single exposure)	3
Specific target organ toxicity (repeated exposure)	2, Inhalative

- 2.2 Label Elements**



Signal word

**DANGER**

H-code	Hazard Statements
H315	Causes skin irritation
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

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H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335.	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled
<b>P-Code</b>	<b>Precautionary Statement - Prevention</b>
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
<b>P-Code</b>	<b>Precautionary Statement - Response</b>
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P370	Advice for fire-fighters
P378	Suitable extinguishing media: Carbon dioxide (CO <sub>2</sub> ), Foam, extinguishing powder. In cases of larger fires, water spray should be used. Don't use high volume water jet.
<b>P-Code</b>	<b>Precautionary Statement - Storage</b>
P403, P233	Store in a well-ventilated place. Keep container tightly closed.
<b>P-Code</b>	<b>Precautionary Statement - Disposal</b>
P501	Dispose of contents / containers to hazardous or special waste collection point. In accordance with local regulation

### 2.3 Other Hazards

None known

## SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

See section below for Mixtures

### 3.2 Mixtures

CAS No.	Material	Content %
9016-87-9	diphenylmethane-diisocyanate, isomers and homologues	>75%

## SECTION 4 – FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General Advice:

Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

#### Ingestion:

DO NOT induce the patient to vomit, medical advice is required..

#### Inhalation:

Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required.

#### Eye Contact:

Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long

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period of time (at least 10 minutes). Contact an ophthalmologist.

### **Skin Contact:**

In the event of contact with the skin, preferably wash with a cleanser based on polyethylene glycol or with plenty of warm water and soap. Consult a doctor in the event of a skin reaction.

- |  |   |
|--|---|
| <b>4.2 Most important symptoms and effects, both acute and delayed</b> | Any relevant information can be found in other parts of this section and in sections 2 and 11.  |
| <b>4.3 Advice for doctor</b>   | The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Extended medical treatment may be required depending on the degree of exposure and the severity of the symptoms. |

## SECTION 5 – FIRE FIGHTING MEASURES

- |  |   |
|--|---|
| <b>5.1 Extinguishing media</b>                                   | Suitable extinguishing media:<br>Carbon dioxide (CO <sub>2</sub> ), Foam, extinguishing powder, in cases of larger fires, water spray should be used.<br><br>Unsuitable extinguishing media that may not be used for safety reasons:<br>High volume water jet   |
| <b>5.2 Special hazards arising from the substance or mixture</b> | Oxides of carbon and isocyanate vapors and traces of hydrogen cyanide as well as other possibly toxic fumes from fire. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.   |
| <b>5.3 Advice for firefighters</b>                               | Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. 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. |

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

- |  |   |
|--|---|
| <b>6.1 Personal precautions, protective equipment and emergency procedures</b> | Secure the area. Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. If material is released indicate risk of slipping. Do not walk through spilled material.  |
| <b>6.2 Environmental precautions</b>   | Do not discharge into sewers or waterways or soil.  |
| <b>6.3 Methods and material for containment and cleaning up</b>                | Remove mechanically; cover the remainder with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO <sub>2</sub> !). Keep damp in a safe ventilated area for several days.<br>Spill area can be decontaminated with the following recommended decontamination solution:<br><br>Decontamination solution 1: 8-10% sodium carbonate and 2% of liquid soap in water<br><br>Decontamination solution 2: Liquid/yellow soap (potassium soap with ~15% anionic |

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tenside): 20ml; Water:700ml; Polyethylenglycol (PEG 400): 350ml

### 6.4 Reference to other sections

Relevant information in other sections has to be considered. This applies in particular for information given on personal protective equipment (section 8) and on disposal (section 13).

## SECTION 7 – HANDLING & STORAGE

### 7.1 Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

In all areas where isocyanate aerosols and/or vapor concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limits are not exceeded. The air should be drawn away from the personnel handling the product.

### 7.2 Conditions for safe storage

**Storage Requirements:**

Keep container tightly closed, store in a cool, dry area

**Storage Incompatibility:**

Not known

**Suitable containers:**

Original packing as recommended by manufacturer.

**Temperature Conditions:**

5° to 35° C

**Protection from weather:**

Store undercover and away from frost and moisture

### 7.3 Specific end use(s)

Once mixed with part A and applied, produces a hard wearing, durable surface suitable for commercial and industrial applications.

### 7.4 Regulations and standards (Australia):

N/A

## SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Emergency limits:

Ingredient	STEL	TWA	
diphenylmethane-diisocyanate, isomers and homologues	0.07 mg/m <sup>3</sup>	0.02mg/m <sup>3</sup>	

### 8.2 Exposure controls

**General protection and hygiene measures:**

Avoid exposure. Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Do not eat, drink or smoke when handling. Wash hands at the end of work and before eating. Remove contaminated, soaked clothing immediately. Air quality should be checked regularly in accordance with AS/NZS 1715. Supply fresh air to the work area by mechanical exhaust fans (make sure explosion and spark proof equipment as solvents are used) or natural air currents through doors, windows or other openings in the building.

**Personal protection equipment:**

*Respiratory protection*

Avoid breathing of vapors/gases. When engineering controls are not effective in controlling airborne exposure then respiratory equipment should be used to protect against airborne contaminant. The appropriate respiratory equipment can

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be determined based upon actual airborne concentration and can vary depending on individual circumstances. Select and use respirators in accordance with AS/NZS 1715/1716. Such as a type A P (organic) filter respirator.

### *Eye protection*

Appropriate safety glasses or chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants

### *Hand protection*

Protective gloves made of Isocyanate resistant materials include Viton, nitrile rubber and some PVA.

### *Skin protection*

Overalls clothing. A protective suit may be required if exposure is severe.

### *Other Information*

Always wash hands before smoking, eating, drinking or using the toilet and after finishing work. Observe the usual precautions when handling chemicals.

### 8.3 Further information for system design and engineering measures

Keep containers closed when not in use.

## SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

9.1	<b>Odour:</b>	Earthy, musty
	<b>Colour:</b>	Brown
	<b>Physical State:</b>	Liquid
	<b>Flash Point:</b>	229°C
	<b>Boiling Point:</b>	>300 °C
	<b>Melting Point:</b>	Not Available
	<b>Specific Gravity:</b>	1.23 g/cm <sup>3</sup> at 20°C
	<b>pH:</b>	N/A
	<b>Solubility in Water (g/L):</b>	Immiscible at 15 °C
	<b>Flammability:</b>	N/A
	<b>Lower Limit:</b>	N/A
	<b>Higher Limit:</b>	N/A
	<b>Vapour Pressure:</b>	11hPa at 20°C, 20hPa at 50°C
	<b>Vapour Density (Air = 1)</b>	N/A
9.2	<b>Other information</b>	Non available

## SECTION 10 – STABILITY AND REACTIVITY

10.1	<b>Reactivity; Chemical stability;</b>	If stored and handled in accordance with standard industrial practices not hazardous reactions are known. Polymerises at about 200 °C with evolution of CO <sub>2</sub> . Exothermic reaction with amines and alcohols; reacts with water forming CO <sub>2</sub> ; in closed containers, risk of bursting owing to increase of pressure.
-3	<b>Possibility of hazardous reactions</b>	
10.4	<b>Conditions to avoid</b>	
10.5	<b>Incompatible materials</b>	This information is not available.
10.6	<b>Hazardous decomposition products</b>	No hazardous decomposition products when stored and handled correctly. But Oxides of carbon and other possibly toxic fumes from fire.

## SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity/Effects

	Acute toxicity
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Enviro Prime P2 part B	Not available
diphenylmethane-diisocyanate, isomers and homologues	dermal (rat) LD50: > 9.400 mg/kg
	Inhalation (rat) LC50: 0,31 mg/l, 4 h
	Oral (rat) LD50: >10.000 mg/kg

### Acute toxicity, inhalation

diphenylmethane-diisocyanate, isomers and homologues

LC50 rat, male/female: 0,31 mg/l, 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

Assessment: Harmful by inhalation.

Converted acute toxicity point estimate 1,5 mg/l

Test atmosphere: dust/mist

Method: Expert judgement

### *Primary mucosae irritation:*

diphenylmethane-diisocyanate, isomers and homologues

Species: rabbit

Result: non-irritant

Method: OECD Test Guideline 405

Toxicological studies of a comparable product.

### *Sensitisation:*

diphenylmethane-diisocyanate, isomers and homologues

Skin sensitisation according to Magnusson/Kligmann (maximizing test):

Species: Guinea pig

Result: negative

Classification: Does not cause skin sensitization.

Method: OECD Test Guideline 406

### Skin sensitization (local lymph node assay (LLNA)):

Species: Mouse

Result: positive

Classification: May cause sensitization by skin contact.

Method: OECD Test Guideline 429

Toxicological studies of a comparable product.

### Respiratory sensitization

Species: rat

Result: positive

Classification: May cause sensitization by inhalation.

## Chronic Toxicity/Effects

### diphenylmethane-diisocyanate, isomers and homologues:

#### *Repeated dose toxicity*

NOAEL: 0,2 mg/m<sup>3</sup>

LOAEL (Lowest observable adverse effect level): 1 mg/m<sup>3</sup>

Application Route: Inhalative

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Species: rat, male/female  
Dose Levels: 0 - 0,2 - 1 - 6 mg/m<sup>3</sup>  
Exposure duration: 2 a  
Frequency of treatment: 6 hours a day, 5 days a week  
Target Organs: Lungs, Nasal inner lining  
Test substance: as aerosol  
Method: OECD Test Guideline 453  
Findings: Irritation to nasal cavity and to lungs.

### *Genetic toxicity*

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.

Studies of a comparable product.

### *Carcinogenicity*

Species: rat, male/female  
Application Route: Inhalative  
Dose Levels: 0 - 0,2 - 1 - 6 mg/m<sup>3</sup>  
Test substance: as aerosol  
Exposure duration: 2 a  
Frequency of treatment: 6 hours/day, 5 days/week  
Method: OECD Test Guideline 453  
Occurrence of tumors in the highest dose group.

### *Reproductive toxicity*

No data available

### *Teratogenicity*

NOAEL (teratogenicity): 12 mg/m<sup>3</sup>  
NOAEL (maternal): 4 mg/m<sup>3</sup>  
NOAEL (developmental toxicity): 4 mg/m<sup>3</sup>  
Species: rat, female  
Application Route: Inhalative  
Dose Levels: 0 - 1 - 4 - 12 mg/m<sup>3</sup>  
Frequency of treatment: 6 hours/day (Exposure duration: 10 days (day 6 - 15 p.c.))  
Test period: 20 d  
Test substance: as aerosol  
Method: OECD Test Guideline 414  
NOAEL (developmental toxicity): 4 mg/m<sup>3</sup>  
Did not show teratogenic effects in animal experiments.

### *Aspiration toxicity:*

Based on available data, the classification criteria are not met.

### *CMR Assessment:*

Carcinogenicity: Suspected of causing cancer by inhalation (Carc. 2).  
Mutagenicity: In vitro and in vivo tests did not show mutagenic effects. Based on available data, the classification criteria are not met.  
Teratogenicity: Did not show teratogenic effects in animal experiments. Based on available data, the classification criteria are not met.  
Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

### Toxicology Assessment:

Acute effects: Harmful if inhaled. The product causes irritation of eyes, skin and mucous membranes.

Sensitization: May cause sensitization by inhalation and skin contact.

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### Additional:

Special properties/effects: Over-exposure entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.

## SECTION 12 – ECOLOGICAL INFORMATION

### Toxicity

#### diphenylmethane-diisocyanate, isomers and homologues:

Acute Fish toxicity

LC50 > 1.000 mg/l

Test type: Acute Fish toxicity

Species: Danio rerio (zebra fish)

Exposure duration: 96 h

Method: OECD Test Guideline 203

Acute toxicity for daphnia

EC50 > 1.000 mg/l

Test type: static test

Species: Daphnia magna (Water flea)

Exposure duration: 24 h

Method: OECD Test Guideline 202

Chronic toxicity to daphnia

NOEC (Reproduction) > 10 mg/l

Species: Daphnia magna (Water flea)

Exposure duration: 21 d

Method: OECD Test Guideline 202

Acute toxicity for algae

ErC50 > 1.640 mg/l

Test type: Growth inhibition

Species: scenedesmus subspicatus

Exposure duration: 72 h

Method: OECD Test Guideline 201

Acute bacterial toxicity

EC50 > 100 mg/l

Test type: Respiration inhibition

Species: activated sludge

Exposure duration: 3 h

Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms

NOEC (mortality) > 1.000 mg/kg

Species: Eisenia fetida (earthworms)

Exposure duration: 14 d

Method: OECD Test Guideline 207

Toxicity to terrestrial plants

NOEC (seedling emergence) > 1.000 mg/kg

Species: Avena sativa (oats)

Exposure duration: 14 d

Method: OECD Test Guideline 208



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NOEC (seedling emergence) > 1.000 mg/kg  
Species: Lactuca sativa (lettuce)  
Exposure duration: 14 d  
Method: OECD Test Guideline 208

### Ecotoxicology Assessment

Acute aquatic toxicity: Based on available data, the classification criteria are not met.

Chronic aquatic toxicity: There is no evidence of a chronic aquatic toxicity.

Toxicity Data on Soil: Not expected to adsorb on soil. The substance is graded as non-critical to soil-dwelling organisms.

Impact on Sewage Treatment: Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants.

### Microorganisms/Effect on sludge

Not available

### Persistence and degradability

#### diphenylmethane-diisocyanate, isomers and homologues:

Biodegradability:

Test type: aerobic

Inoculum: activated sludge

Biodegradation: 0 %, 28 d, i.e. not inherently degradable

Method: OECD Test Guideline 302 C

According to the results of tests of biodegradability this product is not readily biodegradable

Stability in water:

Test type: Hydrolysis

Half life: 20 h at 25 °C

The substance hydrolyzes rapidly in water.

Studies of a comparable product.

Photodegradation:

Test type: Phototransformation in air

Temperature: 25 °C

sensitizer: OH-radicals

Concentration sensibilisator: 500.000 1/cm<sup>3</sup>

Half-life indirect photolysis: 0,92 d

Method: SRC - AOP (calculation)

After evaporation or exposure to the air, the product will be moderately degraded by photochemical processes.

Studies of a comparable product

Volatility (Henry's Law constant):

Calculated value = 0,0229 Pa\*m<sup>3</sup>/mol

The substance has to be scored as being slightly volatile from water.

### Bioaccumulative potential

diphenylmethane-diisocyanate, isomers and homologues

Bioconcentration factor (BCF): < 14

Species: Cyprinus carpio (Carp)

Exposure duration: 42 d

Concentration: 0,2 mg/l

Method: OECD Test Guideline 305 C

An accumulation in aquatic organisms is not to be expected.

The substance hydrolyzes rapidly in water.

Studies of hydrolysis products.

### Mobility in soil

Not applicable

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### Additional Information

Isocyanate reacts with water at the interface forming CO<sub>2</sub> and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents. Previous experience shows that polyurea is inert and non-degradable.

## SECTION 13 – DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Material Recommendation:

Material that cannot be used, reprocessed or recycled should be disposed of in accordance with Federal, State, and local regulations at an approved facility. Depending on the regulations, waste treatment methods may include, e.g., landfill or incineration.

#### Uncleaned packaging Recommendation:

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. These containers can be returned for recycling to the appropriate centres set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

None disposal into waste water.

## SECTION 14 – TRANSPORT INFORMATION

### Transport Information

Classified as a **Non-Dangerous** Good according to the Australian Code for the Transportation of Dangerous Goods by Road and Rail.

**U.N. Number:**

Not applicable

**DG Class:**

Non-Dangerous

**EPG card:**

Not applicable

**Hazchem Code:**

Not applicable

**Proper Shipping Name:**

Not applicable

**Packing Group:**

Not applicable

**Poison Schedule**

6

**Label**

Not applicable

## SECTION 15 – REGULATORY INFORMATION

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

National and local regulations must be observed. For information on labeling please refer to section 2 of this document.

**Australian Inventory:**

Listed

**Controlled Schedule**

No listed substances

**Carcinogenic Substances:**

**Poisons Schedule Number:6  
Isocyanates**

## SECTION 16 – OTHER INFORMATION

Safety Data Sheets are updated regularly. Please ensure you have a current copy. SDS can be obtained from

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our website: [www.envirosystems.com.au](http://www.envirosystems.com.au)

The SDS should be used to assist in the Risk Management. Many other factors determine whether the reported Hazards are risks in any given workplace.

Specific Risks may be determined by reference to various Exposure Scenarios, Scale of use, Frequency of use and current or available engineering controls must be considered.

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Emergency Telephone: Info Safe – 1800 638 556, Poisons Centre – 13112