



SAFETY DATA SHEET 2PK POLYURETHANE PART 'A'

Date Issued: 2 July 2014

HAZARDOUS ACCORDING TO WORKSAFE AUSTRALIA CRITERIA

*1. Identification of the substance/ preparation and the company

2 PK POLYURETHANE PART 'A'

Product Line: 72 Series

Product Codes: 72XX04; 720020 where XX represents codes for colour purposes.

Application:

Part 'A' coloured component of a two pack polyurethane coating for industrial or trade applications.

Supplier:	Luxury Paints Pty Ltd	ABN	85 465 041 603
Address:	8 Manburgh Terrace, Darra, Brisbane, Qld, 4076 Australia		
Postal Address:	PO Box 3045, Darra, Brisbane, Qld, 4076 Australia		
Contact:	Telephone: +61 (7) 3375 3199	A/H: mob.	0413 949 709
	Fax: +61 (7) 3375 3886	Email:	info@luxurypaints.com.au

2. Hazards identification

Health Hazard Classification

This product is classified as hazardous under the criteria of Worksafe Australia.

Flammable. Harmful by inhalation and in contact with skin.

Hazard Category

Xn: Harmful; Xi: Irritant

Risk Phrases

R11 Highly Flammable.
 R20/21 Harmful by inhalation and in contact with skin.
 R36/37/38 Irritating to eyes, respiratory system and skin.
 R65 Harmful: May cause lung damage if swallowed.
 R66 Repeated exposure may cause skin dryness and cracking.
 R67 Vapours may cause drowsiness and dizziness.

Safety Phrases

S2 Keep out of the reach of children.
 S3/7/9 Keep container tightly closed in a cool, well ventilated place.
 S16 keep away from sources of ignition.
 S24/25 Avoid contact with skin and eyes.
 S33 Take precautionary measures against static discharges.
 S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Dangerous Goods Classification

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Poisons Schedule

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Highly flammable. Harmful by inhalation and in contact with skin.



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3. Composition/ information on ingredients

Lead-free pigmented polyester in solvent mixture.

Polyester resin

wt. % 30 - 60

CAS No.: None Index No.: - -

EEC No.: - -

Classification: Xi

(classification according to definition principle)

xylene isomer mixture

wt. % ca 10 - 30

CAS No.: 1330 - 20 - 7 Index No.: 601 - 022 - 00 - 9

EEC No.: 215 - 535 - 7

Classification: R10 ; Xn R20 / 21 ; Xi R38

Threshold concentration for Hazard Symbol Xn = from 12.5%

ethylbenzene

wt. % ca 1 - 3

CAS No.: 100 - 41 - 4 Index No.: 601 - 023 - 00 - 4

EEC No.: 202 - 849 - 4

Classification: F R11 ; Xn R20

Threshold concentration for Hazard Symbol Xn = from 25%

2 - methoxy - 1- methylethyl acetate

wt. % ca 10 - 30

CAS NO.: 108 - 65 - 6 Index No.: 607 - 195 - 00 - 7

EEC No.: 203 - 603 - 9

Classification: R10 ; Xi R36

Methyl ethyl ketone

wt. % ca 1 - 10

CAS No.: 78 -93-3

Classification: R36; R66; R67; Xn; Xi

Non-Hazardous Materials to 100%

4. First-aid measures

General: Take off immediately all contaminated clothing.

If aerosol or vapour is inhaled in high concentrations; take the person into the fresh air and keep them warm. If there is difficulty in breathing, medical advice is required.

After skin contact: In the event of skin contact, wipe off mechanically and wash affected areas thoroughly with industrial cleanser or soap and water. Consult a doctor in the event of a skin reaction.

On eye contact: Hold the eyes open and rinse with preferably lukewarm water for at least 15 minutes ensuring that the areas under the eyelids are thoroughly flushed. Contact an ophthalmologist.

After swallowing: Do NOT induce the patient to vomit, medical advice is required.



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5. Fire-fighting measures

Extinguishing media: CO₂, foam, dry powder: for larger fires water spray should be used.

In the event of a fire, carbon monoxide may be released. Firemen must wear self-contained breathing apparatus. Do not allow contaminated water to enter the soil, ground water or surface waters.

Flammable liquids and explosive vapours may emanate from damaged packages and appropriate controls should be in place to control the risk.

6. Accidental release measures

Put on protective equipment (see Section 8). Remove sources of fire, ensure adequate ventilation/ exhaust ventilation. Keep unauthorised persons away. Do not empty into drains.

Remove mechanically; cover the remainder with wet absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand, diatomaceous earth, spill guard etc.). After approximately 1 hour transfer to waste container and do not seal (evolution of CO₂). Keep damp in a safe ventilated area for several days. For further disposal measures see Section 13.

7. Handling and storage

Handling: Ensure adequate ventilation or exhaust ventilation in the working area. Exhaust ventilation necessary if product is sprayed. Avoid contact with skin and eyes.

Provide adequate ventilation and if necessary, air extraction in working areas. Take precautions against the build-up of static electricity, as normal when handling flammable solvents.

Storage: Keep container dry and tightly closed in a cool and well ventilated place. Further information on storage conditions, which must be observed to preserve quality is available from Luxury Paints Pty Ltd.

8. Exposure controls/ Personal protection

NOHSC 1003 (1995) Exposure Standard:

ethyl benzene: 100 ppm (434 mg/m³) TWA, 125 ppm (543 mg/m³) STEL

xylene: 80 ppm (350 mg/m³) TWA, 150 ppm (655 mg/m³) STEL

2-methoxy-1-methyl acetate: Not allocated

methyl ethyl ketone: 200 ppm (590 mg/m³) TWA, 300 ppm (885 mg/m³) STEL

(to be continued)



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8. Exposure controls/ Personal protection (continued)

TYPE, YEAR	substance	CAS No.	8-hr TWA ppm mg/ m ³		15-min STEL ppm mg/ m ³	
OES 2003	1-methoxypropylacetate (2-methoxy-1-methylethylacetate) H ₃ C-O-CH ₂ -C(OCOCH ₃)H -CH ₃	108-65-6	50	274	100	548
(+ can be absorbed through skin) (values lowered in 2002) (Indicative Occupational Exposure Limit Values) Health R- Phrases: R10, 36 maximum limit of excess factor 1						
Remark: Y (That means, a risk of damage of the foetus is not expected, if the MAK-value and the German BAT-value are observed. [Compare also the TLVs and Biological Exposure Indices]).						
OES 2003	xylene o-,m-, p- or mixed isomers C ₆ H ₄ (CH ₃) ₂	1330-20-7	50	220	100	441
(+ can be absorbed through the skin) (values lowered in 2002) (Indicative Occupational Exposure Limit Values) Health R-Phrases: R20 / 21, 38						
BMGV	In addition, a Biological Monitoring Guidance Value exists:					
Health Guidance Value:	650 mmol methyl hippuric acid / mol creatinine in urine.					
Sampling time:	Post shift					
OES 2003	ethylbenzene C ₆ H ₅ C ₂ H ₅	100-41-4	100	441	125	552
(+ can be absorbed through the skin) (Indicative Occupational Exposure Limit Values) (revised in 2002) Health R-Phrase: R20						

Engineering controls:

Provide adequate local ventilation during application and drying particularly in confined spaces.
 Ventilation should be mechanically assisted during application and drying.
 Ensure exhaust air does not contaminate other work spaces.
 Ensure electrical equipment is in accordance with applicable regulations.
 Equipment used to transfer product should be adequately earthed.
 In confined spaces, tanks or stagnant air conditions use non-sparking tools and shoes.
 Use local mechanical ventilation for all cutting, grinding or "hot work" particularly in confined spaces.

Personal protection

Respiratory: Respiratory protection required in insufficiently ventilated working areas and during spraying. A full face, positive pressure air supplied mask is required for all spray applications or use in confined areas, tanks or stagnant air conditions. The spray booth should be isolated from all other people while spraying is in progress and until all spray mists had been dispersed. A charcoal cartridge half-face mask with an appropriate filter complying with AS1716 as minimum if general ventilation is good for short periods of work involving brush or roller application.

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

Hand protection: Hand protection required. Neoprene or nitrile rubber gloves are suitable. In the event of contamination, change protective gloves immediately. May cause sensitisation by skin contact.

Eye protection: Wear eye/ face protection.

Body protection: Wear long sleeve/ long legged clothing such as coveralls. If spray application, wear protective hood. All exposed skin should be covered. May cause sensitisation by skin contact.

(to be continued)



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8. Exposure controls/ Personal protection (continued)

Protection and hygienic measures: Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at the end of work. Keep working clothes separate. Take off immediately any contaminated clothing.

Flammability

Flammable solvents used in the product (or to thin the product) may produce explosive mixtures with air. These vapours are heavier than air and will "travel" to low areas, e.g. sumps, drains etc. Precautions should be taken to eliminate the build-up of explosive mixtures. Precautions should also be taken to prevent occurrence of static electricity discharge by wearing appropriate clothing, closed footwear with non-insulating soles and appropriate earthing of all containers while pouring or transferring liquid product.

9. Physical and chemical properties

Tested in accordance with:

Form:	Liquid	
Colour:	Various	
Odour:	smell of solvent	
Setting point:	Not available.	
Initial boiling point:	Not available.	
Density:	ca. 1.00 – 1.35	DIN EN ISO 2811
Vapour pressure:		
xylene	ca. 7-9 mbar at 20°C	
resin	<0.001 mbar at 20°C (vapour pressure balance/ OECD No. 104)	
Viscosity:	ca. 250 mPa.s at 23°C ca. 80 s at 23°C flow time per DIN ISO 2431 (orifice: 5mm)	
Solubility in water:	insoluble as resin: reacts as described in paragraph 10.	
1-methoxypropylacetate-2	ca. 200 g/l at 20°C	
pH value:	not applicable	
Flash Point:	ca. -4°C	
Ignition temperature:	ca. 460°C	
Explosive limits:		
methyl ethyl ketone	lower: 1.4% by vol	upper: 11.4% by vol
xylene	lower: 1.0% by vol	upper: 8.0% by vol
1-methoxypropylacetate-2	lower: 1.5% by vol	upper: 10.8% by vol
Remarks:	The values for density and viscosity are guide values.	

10. Stability and reactivity

Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

Hazardous reactions: None known.



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11. Toxicological information

Health Effects:

Acute:

Swallowed: May cause irritation to the throat, mouth and digestive tract. Large doses may cause drowsiness and may lead to unconsciousness. Aspiration of liquid into lungs may cause serious (even fatal) pneumonitis.

Eye: Irritant, both by contact and vapour.

Skin: Irritant, both by contact and vapour. Over-exposure may lead to skin sensitisation even at low isocyanate concentrations.

Inhaled: Vapour is irritating to mucous membranes and respiratory tract. Can cause dizziness, headaches, nausea and may lead to unconsciousness. Prolonged exposure to vapour may cause damage to the central nervous system.

Chronic: In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with isocyanate products. Over-exposure, especially without suitable protection may lead to sensitisation even at low isocyanate concentrations.

First aid: Remove paint residues with industrial skin cleanser. Removal is difficult due to low solubility of resin.

Swallowed: Contact a doctor or Poisons Information Centre. Do NOT induce vomiting. If conscious, give a glass of water.

Eye: Flush immediately with copious water (for at least 15 minutes) ensuring that the areas under the eyelids are thoroughly washed. Seek medical advice.

Skin: Remove contaminated clothing. Remove product from skin with solvent based hand cleaner and wash thoroughly with soap and water. Launder contaminated clothing before re-use.

Inhaled: Provide fresh air. If breathing has stopped or is laboured, provide artificial respiration. If operator has lost consciousness, seek medical attention.

First aid facilities: Provide a supply of solvent based hand cleaner, eye wash equipment (for volume flushing) in addition to normal first aid requirements.

Advice to Doctor: Treat symptomatically. Because of the risk of aspiration, gastric lavage should only be undertaken after endotracheal intubation.

Acute toxicity:

LD₅₀ oral, rat: more than 5000mg/ kg *)

Skin and mucous membrane compatibility, rabbit:

Skin 4 hour exposure – very slight irritant

Eyes - very slight irritant

(OECD – Guidelines for Testing of Chemicals, No. 404 and 405) (1997) **)

*) Toxicological studies of a comparable product.

**) Toxicological studies on a comparable solvent-free product.

Aromatic hydrocarbons, such as xylene, irritate the skin and mucous membrane and are narcotic if inhaled in high concentrations.

Special properties/ effects:

Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritation effects on eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficulty breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Maximum Exposure Limit (MEL). Prolonged contact with the skin may cause tanning and irritant effects.



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12. Ecological information

Acute bacterial toxicity: $EC_{50} = 100 - 1000 \text{ mg/l}$
 (OECD Guideline for Testing of Chemicals, No. 209)
 Acute fish toxicity: $LC_0 = 8.8 \text{ mg/l}$
 $LC_{100} = 25.0 \text{ mg/l}$
 Test species: Brachydanio rerio (Zebra barbel) Duration of test: 96 h

Ecotoxicological testing of the solvent-free product yielded the following results:

Biodegradability: 1%, i.e. not readily biodegradable.
 Degradation rate in 28 days.
 (OECD Guideline for Testing of Chemicals, No. 301 D)

Acute fish toxicity: $LC_0 \geq 100 \text{ mg/l}$
 Test species: Brachydanio rerio (Zebra barbel) Duration of test: 96 h
 (OECD Guideline for Testing of Chemicals, No. 203) *)

Acute toxicity for daphnia: $EC_0 \geq 100 \text{ mg/l}$
 Test species: Daphnia magna (Water flea) Duration of test: 48 h
 (OECD Guideline for Testing of Chemicals, No. 202) *)

Acute toxicity for algae: no toxic effect at 100 mg/l
 Tested on: scenedesmus subs. Duration of test: 72 h
 (OECD Guideline for Testing of Chemicals, No. 201) *)

*) Sample preparation on account of the reactivity of the substance with water:
 Ultra turrax: 60 sec, 8000rpm; 24h magnetic stirrer; filtration.

Remark:

On the basis of the data for ecotoxicological effects, the substance can be classified as non-critical to aquatic organisms in the water-soluble range. As the substance is not readily biodegradable, long retention times in water are to be expected. This applies only in cases where no other elimination mechanisms (photodegradation, hydrolysis, adsorption) are active. However, as there is no ecotoxic effect, no damage to the ecosystem is to be expected.

Do not allow to escape into waterways, waste water or soil.

13. Disposal considerations

The relevant local, regional and national regulations must be complied with. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the national authority. It is recommended that details be worked out with the waste disposal company responsible.

The waste can be disposed of in a suitable incinerator, provided that national/ local legislation is complied with.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

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. Containers must be recycled in compliance with national and environmental regulations.



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*14. Transport information

Dangerous Good according to ADG Code (7 th Edition)				Hazchem:	3[Y]E
GGVSE: 3	UN: 1263	PG: II	SP: 640E		
RID/ADR: 3	UN: 1263	PG: II	SP: 640E		
Warning sign: Hazard No. 30 UN No. 1263					
ADNR: 3	UN: 1263	PG: II	SP: 640E		
GGVSee/IMDG: 3	UN: 1263	PG: II	MPO: NO		
ICAO-TI/IATA-DGR: 3	UN: 1263	PG: II			
Declaration for land shipment:		PAINT RELATED MATERIAL			
Declaration for sea shipment:		PAINT RELATED MATERIAL			
Declaration for shipment by air:		PAINT RELATED MATERIAL			

Limited quantity regulations applicable in accordance with chapter 3.4 RID/ADR in compliance with threshold value.

Other information:
Combustible, flash point - 4°C. Keep dry. Keep separated from foodstuffs.

*15. Regulatory information

Not a scheduled poison under SUSDP.
Labelling as required by Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3), in accordance with Australian requirements:
Symbol: Xn, Xi Hazard description: Harmful, Irritant.

R11: Highly Flammable.
R20/21: Harmful by inhalation and in contact with skin.
R43: May cause sensitisation by inhalation and skin contact.
S24: Avoid contact with skin.
S37: Wear suitable gloves.
S51: Use only in well-ventilated areas.

The manufacturer's information on the handling of isocyanates is contained in this Safety Data Sheet.

The European Committee of Paint, Printing Ink and Artists' Colour Manufacturers' Association (CEPE) provides the following information on coatings containing isocyanates:
Ready-to-use paints containing isocyanates may have an irritant effect on mucous membranes – especially on breathing organs – and cause hypersensitivity reactions. Inhalation of vapour or spray mist may cause sensitisation. When handling paints containing isocyanates all precautions required for solvent-containing paints must be followed. Vapour and spray mist in particular should not be inhaled. Persons who are allergic, asthmatic or prone to respiratory ailments should not work with isocyanate-containing paints.

TRGS 905-classification:
Ethylbenzene (CAS No.: 100-41-4) is not classified as a carcinogenic substance in accordance with TRGS 905 in Germany, nor is it included in the EU substance list. It is classified as a Category 3A carcinogenic substance in accordance with the list of MAK and BAT values from the German Research Commission.

Airborne emissions must be controlled within local and national limits, in accordance with the appropriate legislation.
hexamethylene-1,6-diisocyanate = Class 1

Water pollution class (WGK): 2 – impairment of water quality
WGK = Classification in accordance with the German Water Resources Act (in accordance with Annex 4 to the Directive on Water-Hazardous Substances).



SAFETY DATA SHEET 2PK POLYURETHANE PART 'A'

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*16. Other information

The product is used mainly with a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this Safety Data Sheet. These products may therefore be used only in industrial or trade applications. They are not suitable for use in home worker (DIY) applications where application by spray is entailed.

Application using brush, pad or roller requires the use of an appropriate charcoal cartridge respirator as listed in section 8.

All components of this product are listed in the European Inventory of Existing Commercial Substances (EINECS) under the provisions laid down in the corresponding EC-Directive. The components are also listed in the Australia Inventory of Chemical Substances (NICNAS).

Text of all R-phrases referred to in Sections 2 and 3:

R 10:	Flammable.
R 11:	Highly flammable.
R 20:	Harmful by inhalation.
R 20/ 21:	Harmful by inhalation and in contact with skin.
R 36:	Irritating to the eyes.
R 38:	Irritating to the skin.
R 36/ 37/ 38:	Irritating to the eyes, respiratory system and skin.
R 43:	May cause sensitisation by skin contact.
R 42/ 43:	May cause sensitisation by inhalation and skin contact.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

This Safety Data Sheet replaces all previous information.

Revised and valid from: see Date of Issue.

The data given here is based on current knowledge and experience. The purpose of this Material Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.

End of Report.



SAFETY DATA SHEET 2PK POLYURETHANE HARDENER PART 'B'

Date Issued: 26 June 2014

HAZARDOUS ACCORDING TO CRITERIA OF WORKSAFE AUSTRALIA

*1. Identification of the substance/ preparation and the company

2 PK POLYURETHANE HARDENER PART 'B'

Product line: 73

Product Code: 7301; 7305.

Application:

Isocyanate hardener component of a two pack polyurethane coating for industrial or trade applications.

Supplier:	Luxury Paints Pty Ltd	ABN	85 465 041 603
Address:	8 Manburgh Terrace, Darra, Brisbane, Qld, 4076 Australia		
Postal Address:	PO Box 3045, Darra, Brisbane, Qld, 4076 Australia		
Contact:	Telephone: +61 (7) 3375 3199	A/H:	mob. 0413 949 709
	Fax: +61 (7) 3375 3886	Email:	info@luxurypaints.com.au

2. Hazards identification

Health Hazard Classification

This product is classified as hazardous under the criteria of Worksafe Australia.

Flammable. Harmful by inhalation and in contact with skin,
May cause sensitisation by inhalation and skin contact.
Contains isocyanates – see Section 15 for information.

Xn: Harmful;

Risk Phrases

R10 Flammable.
R20/21 Harmful by inhalation and in contact with skin.
R23 Toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitisation by inhalation and skin contact. Contains isocyanates.
R65 Harmful: May cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness and cracking.
R67 Vapours may cause drowsiness and dizziness.

Safety Phrases

S2 Keep out of the reach of children.
S3/7/9 Keep container tightly closed in a cool, well ventilated place.
S16 Keep away from sources of ignition.
S23 Do not breathe spray, vapour.
S24/25 Avoid contact with skin and eyes.
S33 Take precautionary measures against static discharges.
S36/37/38 Wear suitable protective clothing, gloves and eye/face protection.
S51 Use only in well ventilated areas.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Dangerous Goods Classification

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Poisons Schedule

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SAFETY DATA SHEET 2PK POLYURETHANE HARDENER PART 'B'

Date Issued: 26 June 2014

3. Composition/ information on ingredients

Polyisocyanate adduct in solvent mixture.

Polyisocyanate adduct

wt. % >60

CAS No.: 28182 - 81 - 2 Index No.: - -

EEC No.: - -

Classification: Xi R43

(classification according to definition principle)

hexamethylene -1,6 - diisocyanate

wt. % <0.5

CAS No.: 822 - 06 - 0 Index No. 615 - 011 - 00 - 1

EEC No.: 212 - 485 - 8

Classification: T R23 ; Xi R36 / 37 / 38 ; R42 / 43

Threshold concentration for Hazard Symbol T = from 2.0%

Threshold concentration for Hazard Symbol Xn = from 0.5%

xylene isomer mixture

wt. % ca 10 - 30

CAS No.: 1330 - 20 - 7 Index No.: 601 - 022 - 00 - 9

EEC No.: 215 - 535 - 7

Classification: R10 ; Xn R20 / 21 ; Xi R38

Threshold concentration for Hazard Symbol Xn = from 12.5%

ethylbenzene

wt. % ca 1 - 3

CAS No.: 100 - 41 - 4 Index No.: 601 - 023 - 00 - 4

EEC No.: 202 - 849 - 4

Classification: F R11 ; Xn R20

Threshold concentration for Hazard Symbol Xn = from 25%

2 - methoxy - 1- methylethyl acetate

wt. % ca 10 - 30

CAS NO.: 108 - 65 - 6 Index No.: 607 - 195 - 00 - 7

EEC No.: 203 - 603 - 9

Classification: R10 ; Xi R36



SAFETY DATA SHEET 2PK POLYURETHANE HARDENER PART 'B'

Date Issued: 26 June 2014

4. First-aid measures

General: Take off immediately all contaminated clothing.

If aerosol or vapour is inhaled in high concentrations; take the person into the fresh air and keep them warm. If there is difficulty in breathing, medical advice is required.

After skin contact: In the event of skin contact, wipe off mechanically and wash affected areas thoroughly with industrial cleanser or soap and water. Consult a doctor in the event of a skin reaction.

On eye contact: Hold the eyes open and rinse with preferably lukewarm water for at least 15 minutes ensuring that the areas under the eyelids are thoroughly flushed. Contact an ophthalmologist.

After swallowing: Do NOT induce the patient to vomit, medical advice is required

5. Fire-fighting measures

Extinguishing media: CO₂, foam, dry powder: for larger fires water spray should be used.

In the event of a fire, carbon monoxide, nitrogen oxides, isocyanate vapour and traces of hydrogen cyanide may be released. Firemen must wear self-contained breathing apparatus. Do not allow contaminated water to enter the soil, ground water or surface waters.

Flammable liquids and explosive vapours may emanate from damaged packages and appropriate controls should be in place to control the risk.

6. Accidental release measures

Put on protective equipment (see Section 8). Remove sources of fire, ensure adequate ventilation/ exhaust ventilation. Keep unauthorised persons away. Do not empty into drains. Remove mechanically; cover the remainder with wet absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand, diatomaceous earth, spill guard etc.). After approximately 1 hour transfer to waste container and do not seal (evolution of CO₂). Keep damp in a safe ventilated area for several days. For further disposal measures see Section 13.

7. Handling and storage

Handling: Ensure adequate ventilation or exhaust ventilation in the working area. Exhaust ventilation necessary if product is sprayed. Avoid contact with skin and eyes.

Provide adequate ventilation and if necessary, air extraction in working areas. Take precautions against the build-up of static electricity, as normal when handling flammable solvents.

Storage: Keep container dry and tightly closed in a cool and well ventilated place. Further information on storage conditions, which must be observed to preserve quality is available from Luxury Paints Pty Ltd.



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2PK POLYURETHANE HARDENER PART 'B'

Date Issued: 26 June 2014

8. Exposure controls/ Personal protection

NOHSC 1003 (1995) Exposure Standard:

Isocyanates, (all as -NCO)	0.02 mg/ m ³ TWA, 0.07 mg/ m ³ STEL	Sensitiser
ethyl benzene:	100 ppm (434 mg/ m ³) TWA, 125 ppm (543 mg/ m ³) STEL	
xylene:	80 ppm (350 mg/ m ³) TWA, 150 ppm (655 mg/ m ³) STEL	
2-methoxy-1-methyl acetate:	Not allocated	

TYPE, YEAR	substance	CAS No.	8-hr TWA ppm mg/ m ³		15-min STEL ppm mg/ m ³	
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OES 2003	1-methoxypropylacetate (2-methoxy-1-methylethylacetate) H ₃ C-O-CH ₂ -C(OCOCH ₃)H -CH ₃	108-65-6	50	274	100	548
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(+ can be absorbed through skin) (values lowered in 2002)
(Indicative Occupational Exposure Limit Values)
Health R- Phrases: R10, 36
maximum limit of excess factor 1

Remark: Y (That means, a risk of damage of the foetus is not expected, if the MAK-value and the German BAT-value are observed. [Compare also the TLVs and Biological Exposure Indices]).

OES 2003	xylene o-,m-, p- or mixed isomers C ₆ H ₄ (CH ₃) ₂	1330-20-7	50	220	100	441
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(+ can be absorbed through the skin)
(values lowered in 2002)
(Indicative Occupational Exposure Limit Values)
Health R-Phrases: R20 / 21, 36

BMGV In addition, a Biological Monitoring Guidance Value exists:
Health Guidance Value: 650 mmol methyl hippuric acid / mol creatinine in urine.
Sampling time: Post shift

OES 2003	ethylbenzene C ₆ H ₅ C ₂ H ₅	100-41-4	100	441	125	552
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(+ can be absorbed through the skin)
(Indicative Occupational Exposure Limit Values)
(revised in 2002)
Health R-Phrase: R20

Engineering controls:

Provide adequate local ventilation during application and drying particularly in confined spaces.
Ventilation should be mechanically assisted during application and drying.
Ensure exhaust air does not contaminate other work spaces.
Ensure electrical equipment is in accordance with applicable regulations.
Equipment used to transfer product should be adequately earthed.
In confined spaces, tanks or stagnant air conditions use non-sparking tools and shoes.

Personal protection

Respiratory: Respiratory protection required in insufficiently ventilated working areas and during spraying. A full face, positive pressure air supplied mask is required for all spray applications or use in confined areas, tanks or stagnant air conditions. The spray booth should be isolated from all other people while spraying is in progress and until all spray mists had been dispersed. A charcoal cartridge half-face mask with an appropriate filter complying with AS1716 as minimum if general ventilation is good for short periods of work involving brush or roller application.

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

(to be continued)



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8. Exposure controls/ Personal protection (continued)

Hand protection: Hand protection required. Neoprene or nitrile rubber gloves are suitable. In the event of contamination, change protective gloves immediately. May cause sensitisation by skin contact.

Eye protection: Wear eye/ face protection.

Body protection: Wear long sleeve/ long legged clothing such as coveralls. If spray application, wear protective hood. All exposed skin should be covered. May cause sensitisation by skin contact.

Protection and hygienic measures: Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at the end of work. Keep working clothes separate. Take off immediately any contaminated clothing.

Flammability

Flammable solvents used in the product (or to thin the product) may produce explosive mixtures with air. These vapours are heavier than air and will "travel" to low areas, e.g. sumps, drains etc.

Precautions should be taken to eliminate the build-up of explosive mixtures.

Precautions should also be taken to prevent occurrence of static electricity discharge by wearing appropriate clothing, closed footwear with non-insulating soles and appropriate earthing of all containers while pouring or transferring liquid product.

9. Physical and chemical properties

Form:	Liquid
Colour:	yellowish
Odour:	smell of solvent
Setting point:	ca. -48°C
Initial boiling point:	ca. 145°C
Density:	ca. 1.07
Vapour pressure:	
xylene	ca. 7-9 mbar at 20°C
hexamethylene-1,6-diisocyanate	ca. 0.014 mbar at 25°C
resin	<0.001 mbar at 20°C (vapour pressure balance/ OECD No. 104)
Viscosity:	ca. 250 mPa.s at 23°C ca. 80 s at 23°C flow time per DIN ISO 2431 (orifice: 5mm)
Solubility in water:	insoluble as resin: reacts as described in paragraph 10.
1-methoxypropylacetate-2	ca. 200 g/l at 20°C
pH value:	not applicable
Flash Point:	ca. 38°C
Ignition temperature:	ca. 460°C
Explosive limits:	
xylene	lower: 1.0% by vol upper: 8.0% by vol
1-methoxypropylacetate-2	lower: 1.5% by vol upper: 10.8% by vol
Remarks:	The values for density and viscosity are guide values.

10. Stability and reactivity

Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

Hazardous reactions: Exothermic reaction with amines and alcohols; reacts slowly with water forming CO₂, in closed containers risk of bursting owing to increase in pressure.



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11. Toxicological information

Health Effects:

Acute:

Swallowed: May cause irritation to the throat, mouth and digestive tract. Large doses may cause drowsiness and may lead to unconsciousness. Aspiration of liquid into lungs may cause serious (even fatal) pneumonitis.

Eye: Irritant, both by contact and vapour.

Skin: Irritant, both by contact and vapour. Over-exposure may lead to skin sensitisation even at low isocyanate concentrations.

Inhaled: Vapour is irritating to mucous membranes and respiratory tract. Can cause dizziness, headaches, nausea and may lead to unconsciousness. Prolonged exposure to vapour may cause damage to the central nervous system.

Chronic: In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with isocyanate products. Over-exposure, especially without suitable protection may lead to sensitisation even at low isocyanate concentrations.

First aid: Reacts slowly with skin and tissues – delayed removal is often difficult.

Swallowed: Contact a doctor or Poisons Information Centre. Do NOT induce vomiting. If conscious, give a glass of water.

Eye: Flush immediately with copious water (for at least 15 minutes) ensuring that the areas under the eyelids are thoroughly washed. Seek medical advice.

Skin: Remove contaminated clothing. Remove product from skin with solvent based hand cleaner and wash thoroughly with soap and water. Launder contaminated clothing before re-use.

Inhaled: Provide fresh air. If breathing has stopped or is laboured, provide artificial respiration. If operator has lost consciousness, seek medical attention.

First aid facilities: Provide a supply of solvent based hand cleaner, eye wash equipment (for volume flushing) in addition to normal first aid requirements.

Advice to Doctor: Treat symptomatically. Because of the risk of aspiration, gastric lavage should only be undertaken after endotracheal intubation.

Acute toxicity:

LD₅₀ oral, rat: more than 5000mg/ kg *)

Skin and mucous membrane compatibility, rabbit:

Skin 4 hour exposure – very slight irritant

Eyes - very slight irritant
(OECD – Guidelines for Testing of Chemicals, No. 404 and 405) (1997) **)

*) Toxicological studies of a comparable product.

**) Toxicological studies on a comparable solvent-free product.

Aromatic hydrocarbons, such as xylene, irritate the skin and mucous membrane and are narcotic if inhaled in high concentrations.

Special properties/ effects:

Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritation effects on eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficulty breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Maximum Exposure Limit (MEL). Prolonged contact with the skin may cause tanning and irritant effects.



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12. Ecological information

Acute bacterial toxicity: $EC_{50} = 100 - 1000 \text{ mg/l}$
 (OECD Guideline for Testing of Chemicals, No. 209)
 Acute fish toxicity: $LC_0 = 8.8 \text{ mg/l}$
 $LC_{100} = 25.0 \text{ mg/l}$
 Test species: Brachydanio rerio (Zebra barbel) Duration of test: 96 h

Ecotoxicological testing of the solvent-free product yielded the following results:

Biodegradability: 1%, i.e. not readily biodegradable.
 Degradation rate in 28 days.
 (OECD Guideline for Testing of Chemicals, No. 301 D)

Acute fish toxicity: $LC_0 \geq 100 \text{ mg/l}$
 Test species: Brachydanio rerio (Zebra barbel) Duration of test: 96 h
 (OECD Guideline for Testing of Chemicals, No. 203) *)

Acute toxicity for daphnia: $EC_0 \geq 100 \text{ mg/l}$
 Test species: Daphnia magna (Water flea) Duration of test: 48 h
 (OECD Guideline for Testing of Chemicals, No. 202) *)

Acute toxicity for algae: no toxic effect at 100 mg/l
 Tested on: scenedesmus subs. Duration of test: 72 h
 (OECD Guideline for Testing of Chemicals, No. 201) *)

*) Sample preparation on account of the reactivity of the substance with water:
 Ultra turrax: 60 sec, 8000rpm; 24h magnetic stirrer; filtration.

Remark:

On the basis of the data for ecotoxicological effects, the substance can be classified as non-critical to aquatic organisms in the water-soluble range. As the substance is not readily biodegradable, long retention times in water are to be expected. This applies only in cases where no other elimination mechanisms (photodegradation, hydrolysis, adsorption) are active. However, as there is no ecotoxic effect, no damage to the ecosystem is to be expected.

Do not allow to escape into waterways, waste water or soil.

The resin reacts with water at the interface forming CO_2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water-soluble solvents.

13. Disposal considerations

The relevant local, regional and national regulations must be complied with. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the national authority. It is recommended that details be worked out with the waste disposal company responsible.

The waste can be disposed of in a suitable incinerator, provided that national/ local legislation is complied with.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

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. Containers must be recycled in compliance with national and environmental regulations.



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*14. Transport information

Dangerous Good according to ADG Code (7 th Edition)					Hazchem:	3[Y]
GGVSE: 3	UN: 1263	PG: III	SP: 640E			
RID/ ADR: 3	UN: 1263	PG: III	SP: 640E			
Warning sign:	Hazard No. 30 UN No. 1263					
ADNR: 3	UN: 1263	PG: III	SP: 640E			
GGVSee/ IMDG: 3	UN: 1263	PG: III	MPO: NO			
ICAO-TI/ IATA-DGR: 3	UN: 1263	PG: III				
Declaration for land shipment:	PAINT RELATED MATERIAL					
Declaration for sea shipment:	PAINT RELATED MATERIAL					
Declaration for shipment by air:	PAINT RELATED MATERIAL					

Limited quantity regulations applicable in accordance with chapter 3.4 RID/ ADR in compliance with threshold value.

Other information:
Combustible, flash point +26°C. Keep dry. Keep separated from foodstuffs.

*15. Regulatory information

Not a scheduled poison under SUSDP.

Labelling as required by Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3), in accordance with Australian requirements:

Symbol:	Xn,	Hazard description:	Harmful.
-----		Contains isocyanates. See information supplied by the manufacturer.	
R10	Flammable.		
R20/21	Harmful by inhalation and in contact with skin.		
R23	Toxic by inhalation.		
R36/37/38	Irritating to eyes, respiratory system and skin.		
R42/43	May cause sensitisation by inhalation and skin contact. Contains isocyanates.		
R65	Harmful: May cause lung damage if swallowed.		
R66	Repeated exposure may cause skin dryness and cracking.		
R67	Vapours may cause drowsiness and dizziness.		
S2	Keep out of the reach of children.		
S3/7/9	Keep container tightly closed in a cool, well ventilated place.		
S16	Keep away from sources of ignition.		
S23	Do not breathe spray, vapour.		
S24/25	Avoid contact with skin and eyes.		
S33	Take precautionary measures against static discharges.		
S36/37/38	Wear suitable protective clothing, gloves and eye/face protection.		
S51	Use only in well ventilated areas.		
S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.		

The manufacturer's information on the handling of isocyanates is contained in this Safety Data Sheet.

The European Committee of Paint, Printing Ink and Artists' Colour Manufacturers' Association (CEPE) provides the following information on coatings containing isocyanates:

Ready-to-use paints containing isocyanates may have an irritant effect on mucous membranes – especially on breathing organs – and cause hypersensitivity reactions. Inhalation of vapour or spray mist may cause sensitisation. When handling paints containing isocyanates all precautions required for solvent-containing paints must be followed. Vapour and spray mist in particular should not be inhaled. Persons who are allergic, asthmatic or prone to respiratory ailments should not work with isocyanate-containing paints.

(to be continued)



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*15. Regulatory information continued

TRGS 905-classification:

Ethylbenzene (CAS No.: 100-41-4) is not classified as a carcinogenic substance in accordance with TRGS 905 in Germany, nor is it included in the EU substance list. It is classified as a Category 3A carcinogenic substance in accordance with the list of MAK and BAT values from the German Research Commission.

Airborne emissions must be controlled within local and national limits, in accordance with the appropriate legislation.

hexamethylene-1,6-diisocyanate = Class 1

Water pollution class (WGK): 2 – impairment of water quality

WGK = Classification in accordance with the German Water Resources Act (in accordance with Annex 4 to the Directive on Water-Hazardous Substances).

Any existing national regulations on the handling of isocyanates and solvents must be observed.

Swiss law of poison: class of poison 4; BAG-T-No. 614384.

*16. Other information

The product is used mainly as a hardener in coating materials or adhesives. The handling of coating materials or adhesives containing reactive polyisocyanates and residual monomeric HDI requires appropriate protective measures referred to in this Safety Data Sheet. These products may therefore be used only in industrial or trade applications. They are not suitable for use in home worker (DIY) applications where application by spray is entailed.

Application using brush, pad or roller requires the use of an appropriate charcoal cartridge respirator as listed in section 8.

All components of this product are listed in the European Inventory of Existing Commercial Substances (EINECS) under the provisions laid down in the corresponding EC-Directive. The components are also listed in the Australia Inventory of Chemical Substances (NICNAS).

Text of all R-phrases referred to in Sections 2 and 3:

R 10:	Flammable.
R 20:	Harmful by inhalation.
R 20/ 21:	Harmful by inhalation and in contact with skin.
R 36:	Irritating to the eyes.
R 38:	Irritating to the skin.
R 36/ 37/ 38:	Irritating to the eyes, respiratory system and skin.
R 43:	May cause sensitisation by skin contact.
R 42/ 43:	May cause sensitisation by inhalation and skin contact.

This Safety Data Sheet replaces all previous information.

Revised and valid from: see Date of Issue.

The data given here is based on current knowledge and experience. The purpose of this Material Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.

End of Report.