

MATERIAL SAFETY DATASHEET

Durabak

Prepared in accordance with European Regulation 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name: DURABAK

1.2 Relevant identified uses of the substance or mixture and uses advised against

Application of the substance: Moisture-cured polyurethane coating

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Zest Polyurethanes

Alternator Avenue, Montague Gardens, Cape Town, South Africa, 7441, Tel: +27 (021) 555-3090

Further information obtainable from: The Technical Manager, Zest Polyurethanes. Email: zest@duram.co.za

1.4 Emergency telephone number: The Technical Manager, Zest Polyurethanes, Tel: +27 (021) 555-3090 (GMT 10:00-18:00)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture – according to Regulation (EC) No 1272/2008 [CLP]

Flammable Liquids – Category 3

Skin Irritant - Category 2

Specific Target Organ Toxicity (Single Exposure); (Respiratory Tract Irritation) – Category 3

Percentage of the Mixture consisting of ingredient(s) of Unknown Hazards to the Aquatic Environment Less than 5%

2.2 GHS Label elements

Hazard Pictograms



Signal Word: **Warning**

Hazard Statements:

H226 Flammable liquid and vapour

H315 Causes skin irritation

Precautionary Statements: (Prevention):

P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection

P284 In case of inadequate ventilation wear respiratory protection

Precautionary Statements: (Response):

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do - continue rinsing.

Precautionary Statements: (Storage):

P403 + P233 Store in a well ventilated place. Keep container tightly closed.

Precautionary Statements: (Disposal):

P501 Dispose of contents/container to landfill site after solidification.

Labelling of special preparations: (GHS):

Contains isocyanates. May produce an allergic reaction.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: Xylene mixed isomers

2.3 Other hazards




According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with non-hazardous additions

Hazardous ingredients (GHS) according to Regulation (EC) No 1272/2008 [CLP]			
CAS: 1330-20-7 EINECS: 215-535-7	XYLENE (mixed isomers)	  H226 H312 + H332, H315	20 – 30% by mass
CAS: 101-68-8 EINECS: 202-966-0	ISOCYANATE Diphenylmethane-4,4'-diisocyanate (MDI)	 H315, H319, H332, H334, H335, H351, H373	< 5.3% by mass

4. FIRST AID MEASURES

4.1 Description of first aid measures

After skin contact: Use hand cleaner/soap and water. Remove contaminated clothing. If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor. After

inhalation: Move to fresh air. In case of any discomfort, seek medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation sensitiser with accumulative effects. Risk of dermatitis. May cause lung damage if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

If ingested, do not induce vomiting. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents: Foam. Carbon dioxide. Dry powder. Fog to cool and control.

Unsuitable extinguishing agents, for safety reasons: Do NOT use water jets. Containers can become pressurised if contents are contaminated with water.

5.2 Special hazards arising from the substance or mixture

Flammable with toxic fumes.

5.3 Advice for firefighters

Wear protective equipment and respirators. Blown or distorted containers should be handled with extreme caution.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions

Do not allow to enter drains or sewers / surface or ground water.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Hazardous in liquid state. Solidify by reaction with water before disposal.

6.4 Reference to other sections

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for disposal information.

7. HANDLING AND STORAGE**7.1 Precautions for safe handling**

Information about protection against fire and explosion: Flammable. No open flames. No smoking.

7.2 Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: Store separately from any reactive substances, especially oxidisers.

Information about storage in one common facility: As above.

Further information about storage conditions: Keep containers tightly sealed.

7.3 Specific end use(s)

Open with care. Cover lid / bung with a cloth while releasing pressure.

Generates carbon dioxide gas from reaction with water. Do not seal if contaminated with water due to danger of bursting.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical facilities: Adequate ventilation. See items 7.1 and 7.2.

8.1 Control parameters

Ingredients with limit values that require monitoring in the workplace: Monitoring is not required. The product has no quantities of materials with critical values.

Additional information:

Component:	IOELV TWA (8 hours):		IOELV STEL (15 minutes):	
XYLENE (1330-20-7)	50 ppm	221 mg/m ³	100 ppm	442 mg/m ³
MDI (101-68-8)	0.005 ppm	0.02 mg/m ³	0.01 ppm	0.07 mg/m ³

8.2 Exposure controls

General protective and hygiene measures: Wash hands before breaks and at the end of work. Do not inhale gases/fumes.

Personal protective equipment:



Respiratory protection:

A cartridge-type respirator with cartridge for organic fumes is essential for spraying operations.



Eye protection:

Wear tightly sealed goggles or face shield.



Hand protection:

Wear nitrile rubber gloves.

Material of gloves: The selection of suitable gloves also depends on marks of quality, which vary from manufacturer to manufacturer. The resistance of the glove material cannot be calculated in advance and therefore has to be checked prior to the time of application.

Penetration of glove material: Observe the exact breakthrough time supplied by the manufacturer.

Skin protection: Wear overalls and safety boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Appearance:

Physical state	Liquid
Colour	Various
Odour	Sweetish
Odour threshold	Not determined
pH value:	8.0

Change in condition:

Melting point/Melting range	< -46 °C
Boiling point/Boiling range	140 °C
Flash point	27 °C (ASTM D56)
Flammability (solid, gaseous)	Flammable
Ignition temperature	> 200 °C
Decomposition temperature	200 °C
Self-igniting	Product is not self-igniting.
Danger of explosion	Explosion of mixtures with oxygen possible. Produces carbon dioxide gas when mixed with water. Subsequent sealing of drums can lead to pressure burst.

Explosion limits:

Upper	2.1 % by volume
Lower	11.5 % by volume
Vapour pressure at 20 °C	14.2 hPa
Density at 20 °C	1.03 g/cm ³
Relative density	1.03 (water = 1.00)
Vapour density	Not determined
Evaporation rate	Not determined
Solubility in / Miscibility with water	Not miscible, reacts with water
Segregation coefficient (n-octanol/water)	Not determined

Viscosity:

Dynamic at 20 °C	80 – 110 ku (Krebbs units)
Kinematic	Not determined

Solvent content:

Organic solvents	< 24.75 % by mass
Water	< 0.1 % by mass
Solids content	> 70 % by mass or 65 % by volume

9.2 Other information

No further relevant information available.

VOC (EU)	≤ 250g/L
VOCV	≤ 29.0% by volume

10. STABILITY AND REACTIVITY

10.1 Reactivity

Reacts with water.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: Could produce static discharge – use earthing.

10.3 Possibility of hazardous reactions

Stable if stored under normal conditions.

10.4 Conditions to avoid

When exposed to abnormally high temperatures containers will bulge and possibly burst.

10.5 Incompatible materials

Oxidisers. Reacts with water, generating carbon dioxide gas.

10.6 Hazardous decomposition products

Hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke may be produced.

11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute toxicity: LD₅₀ / LC₅₀ values relevant for classification:

XYLENE:		MDI:	
Oral (LD ₅₀)	4300 mg/kg (rat)	Oral (LD ₅₀)	9200 mg/kg (rat)
Dermal (LD ₅₀)	> 1700 mg/kg (rabbit)	Dermal (LD ₅₀)	>5000 mg/kg (rabbit)
Inhalation (LC ₅₀)	27.6 mg/l / 4 hours (rat)	Inhalation (LC ₅₀)	0.49 mg/l / 4 hours (rat)

No carcinogenic, mutagenic, or genetic effects have been established.

Primary irritant effect: Skin and Inhalation sensitiser.

XYLENE

On the skin

Practically non-irritating.

On the eyes

Irritant.

Orally

Low toxicity.

Through inhalation

Harmful. Can irritate the respiratory tract and cause headaches and giddiness.

Sensitisation: Prolonged skin contact may defat the skin resulting in possible irritation and dermatitis. Prolonged inhalation may cause CNS disturbances.

MDI

On the skin

Slight to moderate irritation. May stain skin.

On the eyes

Moderate eye irritation. May cause transient corneal damage.

Orally

Low toxicity. May cause gastrointestinal irritation.

Through inhalation

Can cause severe irritation of the respiratory tract with burning sensation of the nose and throat. Effects can be delayed.

Sensitisation

Respiratory sensitisation may occur. Chronic exposure by inhalation may result in a permanent decrease of lung function. May cause sensitisation by skin contact.

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Aquatic toxicity: None of the components is persistent in the aquatic environment.

12.2 Persistence and degradability

Biodegradable. Once solidified, can be disposed of in landfill sites (consult local regulations).

12.3 Bioaccumulative potential

Not bioaccumulative.

12.4 Mobility in soil

Low due to solidification by reaction with water.

Additional ecological information:

General notes: Considered harmful to terrestrial vertebrates. May have short-term environmental effects. Contain, monitor and remove.

12.5 Results of PBT and vPvB assessment

Not applicable.

12.6 Other adverse effects

No further relevant information available.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Recommendation: Hazardous in liquid state. Solidify by reaction with water before disposal. Danger of bursting – do not seal. Use reputable waste disposal contractors. Destroy used containers. Consult local official regulations.

European waste catalogue	
08 00 00	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks.
08 01 00	Wastes from MFSU and removal of paint and varnish.
08 01 11	Waste paint and varnish containing organic solvents or other dangerous substances.

Uncleaned packaging

Recommendation: Leave container unsealed for 3 to 4 days to solidify from atmospheric moisture. Once solid, container may be disposed of in a landfill site. Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION**14.1 UN-Number**

ADR, IMDG, IATA UN 1263

14.2 UN proper shipping name

ADR 1263 PAINT
IMDG, IATA PAINT

14.3 Transport hazard classes

ADR		IMDG, IATA	
Class	3 Flammable liquids	Class	3 Flammable liquids
Label	3	Label	3

IMO class: 3
EA code: 127
HAZCHEM code: 3 (Y)

14.4 Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards

Marine pollutant: ND (Not Dangerous)

14.6 Special precautions for user

Danger code (Kemler): Warning: Flammable liquids
30
EMS Number: F-E~S-E

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Transport/Additional information:

For ADR and IMDG: Transport and packing are in accordance with the regulation for limited quantities. This product is therefore non-dangerous goods.

ADR

Limited quantities (LQ) 1 L and 4 L
Transport category 3

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Compliant with REACH, CLP and GHS.

15.2 Chemical safety assessment

Chemical Safety Assessment not yet performed due to registration timelines. Exposure scenarios for the mixture cannot be provided at the moment because exposure scenarios are not yet available for all relevant substances due to registration timelines. For advice on essential measures see sections 7 and 8 of this safety data sheet.

16. OTHER INFORMATION

CONTAINS ISOCYANATE - POTENTIAL SENSITISER - ENSURE PRECAUTIONS ARE TAKEN.
PAY SPECIAL ATTENTION TO STORAGE AND HANDLING REQUIREMENTS.
IN CASE OF ANY DISCOMFORT FROM CONTACT WITH THE MIXTURE, ALWAYS SEEK MEDICAL ADVICE.

H phrases appearing in this document:

H226 Flammable liquid and vapour
H312 Harmful in contact with skin
H315 Causes skin irritation
H319 Causes serious eye irritation
H312 + H332: Harmful in contact with skin or inhaled
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 inhalation exposure

Notice to Reader

Important Note: The information contained in this Data Sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and is believed to be correct at the date of its preparation. It is the user's responsibility to verify that this data sheet is current prior to using the product in which is detailed in it

Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to its use. Where those purposes are other than as specifically recommended in this safety data sheet, the user then uses the product at their own risk

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