



# DUOTHANE PART B

## Era Polymers Pty Ltd

Chemwatch: 9-46736

Version No: 1.3

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 2

Issue Date: 24/01/2014

Print Date: 24/01/2014

S.GHS.NZLEN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	DUOTHANE PART B
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	PAINT
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

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

Relevant identified uses	Product is used as a cork, timber, and parquetry sealer and finish in conjunction with DUOTHANE Part A and/or DUOTHANE FAST A.
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### Details of the supplier of the safety data sheet

Registered company name	Urethane Coatings, a division of Era Polymers Pty Ltd
Address	25-27 Green Street 2019 NSW Australia
Telephone	+61 (0)2 9666 3888
Fax	+61 (0)2 9666 4805
Website	http://www.urethanecoatings.com.au
Email	mark@urethanecoatings.com.au

### Emergency telephone number

Association / Organisation	CHEMWATCH
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

### CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.**

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	2	
Toxicity	2	
Body Contact	2	
Reactivity	1	
Chronic	2	

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

GHS Classification <sup>[1]</sup>	Flammable Liquid Category 3, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Respiratory Sensitizer Category 1, Aspiration Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Determined by Chemwatch using  
GHS/HSNO criteria

3.1C, 6.1D (dermal), 6.1D (inhalation), 6.1E (aspiration), 6.5A (respiratory)

#### Label elements

GHS label elements



SIGNAL WORD

**DANGER**

#### Hazard statement(s)

H226	Flammable liquid and vapour
H312	Harmful in contact with skin
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H304	May be fatal if swallowed and enters airways

#### Precautionary statement(s): Prevention

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P284	[In case of inadequate ventilation] wear respiratory protection.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

#### Precautionary statement(s): Response

P301+P310+P331	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider. Do NOT induce vomiting.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321	Specific treatment (see advice on this label).
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor/physician/first aider
P370+P378	In case of fire: Use... to extinguish.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P362+P364	Take off contaminated clothing and wash it before reuse.

#### Precautionary statement(s): Storage

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

#### Precautionary statement(s): Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
64742-94-5	10-30	<a href="#">solvent naphtha petroleum, heavy aromatic</a>
1330-20-7	10-30	<a href="#">xylene</a>
123-86-4	<10	<a href="#">n-butyl acetate</a>

26471-62-5

&lt;1

[toluene diisocyanate](#)**SECTION 4 FIRST AID MEASURES**

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

**Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul> <p>Following uptake by inhalation, move person to an area free from risk of further exposure. Oxygen or artificial respiration should be administered as needed. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. A physician should be consulted.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul>

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

	<p>Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.</p> <p>Toluene diisocyanate is a known pulmonary sensitiser. Annual medical surveillance should be conducted including pulmonary history, examination of the heart and lungs, 14 x 17 inch (35 x 47 cm) x-ray and pulmonary function testing (FCV, FEV1).</p> <p>In normal commercial preparations of toluene diisocyanate, the 2,4-isomer dominates in the ratio 4:1. However it is also hydrolysed, in air, more rapidly than the 2,6-isomer. Airway sensitivities may result from the appearance of immunoglobulins in the blood. Frequent inability to detect antibodies to TDI in clinical cases may result from the routine use of diagnostic antigens containing predominantly 2,4-TDI, whereas individuals may have been exposed to atmospheres in which 2,6-TDI was the predominant isomer. [Karol &amp; Jin, Frontiers of Molecular Toxicology, pp 55-61, 1992]</p> <p>For acute or short term repeated exposures to xylene:</p> <ul style="list-style-type: none"> <li>▶ Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.</li> <li>▶ Pulmonary absorption is rapid with about 60-65% retained at rest.</li> <li>▶ Primary threat to life from ingestion and/or inhalation, is respiratory failure.</li> <li>▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> &lt; 50 mm Hg or pCO<sub>2</sub> &gt; 50 mm Hg) should be intubated.</li> <li>▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.</li> <li>▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.</li> <li>▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.</li> </ul> <p style="text-align: center;">BIOLOGICAL EXPOSURE INDEX - BEI</p> <p>These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):</p> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Determinant</th> <th>Index</th> <th>Sampling Time</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Methylhippu-ric acids in urine</td> <td>1.5 gm/gm creatinine</td> <td>End of shift</td> <td></td> </tr> <tr> <td></td> <td>2 mg/min</td> <td>Last 4 hrs of shift</td> <td></td> </tr> </tbody> </table>	Determinant	Index	Sampling Time	Comments	Methylhippu-ric acids in urine	1.5 gm/gm creatinine	End of shift			2 mg/min	Last 4 hrs of shift	
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**SECTION 5 FIREFIGHTING MEASURES****Extinguishing media**

	▶ Foam.
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- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

### Special hazards arising from the substrate or mixture

#### Fire Incompatibility

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

### Advice for firefighters

#### Fire Fighting

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Use water delivered as a fine spray to control fire and cool adjacent area.
- ▶ Avoid spraying water onto liquid pools.

#### Fire/Explosion Hazard

- ▶ 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 of carbon monoxide (CO).
- ▶ May emit acrid smoke.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

#### Minor Spills

- ▶ Remove all ignition sources.
- ▶ Clean up all spills immediately.
- ▶ Avoid breathing vapours and contact with skin and eyes.
- ▶ Control personal contact with the substance, by using protective equipment.
- ▶ Contain and absorb small quantities with vermiculite or other absorbent material.

#### Major Spills

- Moderate hazard.
- ▶ Clear area of personnel and move upwind.
  - ▶ Alert Fire Brigade and tell them location and nature of hazard.
  - ▶ Wear breathing apparatus plus protective gloves.
  - ▶ Prevent, by any means available, spillage from entering drains or water course.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

#### Safe handling

- ▶ **DO NOT allow clothing wet with material to stay in contact with skin**
- ▶ Avoid all personal contact, including inhalation.
- ▶ Wear protective clothing when risk of exposure occurs.
- ▶ Use in a well-ventilated area.

#### Other information

- ▶ Store in original containers.
- ▶ Keep containers securely sealed.
- ▶ No smoking, naked lights or ignition sources.
- ▶ Store in a cool, dry, well-ventilated area.
- ▶ Store away from incompatible materials and foodstuff containers.

### Conditions for safe storage, including any incompatibilities

#### Suitable container

- ▶ Metal can or drum
- ▶ Packaging as recommended by manufacturer.
- ▶ Check all containers are clearly labelled and free from leaks.

#### Storage incompatibility

- Xylenes:
- ▶ may ignite or explode in contact with strong oxidisers, 1,3-dichloro-5,5-dimethylhydantoin, uranium fluoride
  - ▶ attack some plastics, rubber and coatings
  - ▶ may generate electrostatic charges on flow or agitation due to low conductivity.
  - ▶ Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.

### PACKAGE MATERIAL INCOMPATIBILITIES

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	xylene	Xylene (o-, m-, p-isomers)	217 (mg/m <sup>3</sup> ) / 50 (ppm)	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	n-butyl acetate	n-Butyl acetate	713 (mg/m <sup>3</sup> ) / 150 (ppm)	950 (mg/m <sup>3</sup> ) / 200 (ppm)	Not Available	Not Available

## DUOTHANE PART B

New Zealand Workplace Exposure Standards (WES)	toluene diisocyanate	Isocyanates, all, (as -NCO)	0.02 (mg/m <sup>3</sup> )	0.07 (mg/m <sup>3</sup> )	Not Available	Sensitiser; These values apply to all isocyanates, including prepolymers, present in the workplace air as vapours, mist or dust.
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## EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
solvent naphtha petroleum, heavy aromatic	500(ppm)	750(ppm)	750(ppm)	750(ppm)
xylene	100(ppm)	130(ppm)	920(ppm)	2500(ppm)
n-butyl acetate	5(ppm)	5(ppm)	200(ppm)	3000(ppm)
toluene diisocyanate	0.25 / 0.005(ppm)	0.75 / 0.02(ppm)	1.5 / 0.083(ppm)	1.5 / 0.51(ppm)

Ingredient	Original IDLH	Revised IDLH
xylene	1,000(ppm)	900(ppm)
n-butyl acetate	10,000(ppm)	1,700 [LEL](ppm)

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>Chemical goggles.</li> <li>Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hand protection</b>	<ul style="list-style-type: none"> <li>Wear chemical protective gloves, e.g. PVC.</li> <li>Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and</p>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>Overalls.</li> <li>P.V.C. apron.</li> <li>Barrier cream.</li> <li>Skin cleansing cream.</li> </ul>
<b>Thermal hazards</b>	

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated**

DUOTHANE PART B Not Available

Material	CPI

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE**

## Respiratory protection

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 5 x ES	A-AUS / Class 1 P2	-	A-PAPR-AUS / Class 1 P2
up to 25 x ES	Air-line*	A-2 P2	A-PAPR-2 P2
up to 50 x ES	-	A-3 P2	-
50+ x ES	-	Air-line**	-

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals,

K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Pale clear straw liquid		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.98
<b>Odour</b>	Slight	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	>149	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	>38	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution(1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▸ Presence of incompatible materials.</li> <li>▸ Product is considered stable.</li> <li>▸ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Inhaled</b>	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.</p> <p>Headache, fatigue, lassitude, irritability and gastrointestinal disturbances (e.g., nausea, anorexia and flatulence) are the most common symptoms of xylene overexposure. Injury to the heart, liver, kidneys and nervous system has also been noted amongst workers.</p>
<b>Ingestion</b>	<p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Ingestion of petroleum hydrocarbons may produce irritation of the pharynx, oesophagus, stomach and small intestine with oedema and mucosal ulceration resulting; symptoms include a burning sensation in the mouth and throat. Large amounts may produce narcosis with nausea and vomiting, weakness or dizziness, slow and shallow respiration, swelling of the abdomen, unconsciousness and convulsions.</p>
<b>Skin Contact</b>	<p>Skin contact with the material may be harmful; systemic effects may result following absorption. Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.</p> <p>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis.</p>
<b>Eye</b>	<p>Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).</p>
<b>Chronic</b>	<p>Practical evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a substantial number of individuals at a greater frequency than would be expected from the response of a normal population.</p> <p>Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of</p>

	nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.																				
<b>DUOTHANE PART B</b>	<table border="1"> <thead> <tr> <th>TOXICITY</th> <th>IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Not Available	Not Available																
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<b>xylene</b>	<table border="1"> <thead> <tr> <th>TOXICITY</th> <th>IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Inhalation (rat) LC50: 5000 ppm/4h</td> <td>Eye (human): 200 ppm irritant</td> </tr> <tr> <td>Intraperitoneal (Mouse) LD50: 1548 mg/kg</td> <td>Eye (rabbit): 5 mg/24h SEVERE</td> </tr> <tr> <td>Intraperitoneal (Rat) LD50: 2459 mg/kg</td> <td>Eye (rabbit): 87 mg mild</td> </tr> <tr> <td>Oral (Mouse) LD50: 2119 mg/kg</td> <td>Skin (rabbit):500 mg/24h moderate</td> </tr> <tr> <td>Oral (rat) LD50: 4300 mg/kg</td> <td></td> </tr> <tr> <td>Subcutaneous (Rat) LD50: 1700 mg/kg</td> <td></td> </tr> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Inhalation (rat) LC50: 5000 ppm/4h	Eye (human): 200 ppm irritant	Intraperitoneal (Mouse) LD50: 1548 mg/kg	Eye (rabbit): 5 mg/24h SEVERE	Intraperitoneal (Rat) LD50: 2459 mg/kg	Eye (rabbit): 87 mg mild	Oral (Mouse) LD50: 2119 mg/kg	Skin (rabbit):500 mg/24h moderate	Oral (rat) LD50: 4300 mg/kg		Subcutaneous (Rat) LD50: 1700 mg/kg		Not Available	Not Available				
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Subcutaneous (Rat) LD50: 1700 mg/kg																					
Not Available	Not Available																				
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<b>DUOTHANE PART B</b>	Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. In addition to the allergen-specific potential for causing respiratory sensitisation, the amount of the allergen, the exposure period and the genetically determined disposition of the exposed person are likely to be decisive. Factors which increase the sensitivity of the mucosa may play a role in predisposing a person to allergy. They may be genetically determined or acquired, for example, during infections or exposure to irritant substances. Immunologically the low molecular weight substances become complete allergens in the organism either by binding to peptides or proteins (haptens) or after metabolism (prohaptens).																				
<b>SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC</b>	<p><b>for petroleum:</b> This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents</p>																				
<b>XYLENE</b>	Reproductive effector in rats																				
<b>TOLUENE DIISOCYANATE</b>	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important.																				
<b>XYLENE, N-BUTYL ACETATE</b>	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.																				

<b>Acute Toxicity</b>	Acute Toxicity (Dermal) Category 4 Acute Toxicity (Inhalation) Category 4	<b>Carcinogenicity</b>	Not Applicable
<b>Skin Irritation/Corrosion</b>	Not Applicable	<b>Reproductivity</b>	Not Applicable
<b>Serious Eye Damage/Irritation</b>	Not Applicable	<b>STOT - Single Exposure</b>	Not Applicable
<b>Respiratory or Skin sensitisation</b>	Respiratory Sensitizer Category 1	<b>STOT - Repeated Exposure</b>	Not Applicable
<b>Mutagenicity</b>	Not Applicable	<b>Aspiration Hazard</b>	Aspiration Hazard Category 1

**CMR STATUS****SECTION 12 ECOLOGICAL INFORMATION****Toxicity**

For xylenes :  
log Koc : 2.05-3.08  
Koc : 25.4-204  
Half-life (hr) air : 0.24-42  
Half-life (hr) H2O surface water : 24-672

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Not Available	Not Available

**Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and MSDS and observe all notices pertaining to the product.</li> </ul>
	Insure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	*3YE; *3Y

**Land transport (UN)**

<b>UN number</b>	1263
<b>Packing group</b>	III
<b>UN proper shipping name</b>	PAINT
<b>Environmental hazard</b>	No relevant data
<b>Transport hazard class(es)</b>	Class : 3 Subrisk :
<b>Special precautions for user</b>	Special provisions : 163;223;367 limited quantity : 5 L

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	1263
<b>Packing group</b>	III
<b>UN proper shipping name</b>	



<b>Environmental hazard</b>	No relevant data
<b>Transport hazard class(es)</b>	ICAO/IATA Class ICAO / IATA Subrisk ERG Code
<b>Special precautions for user</b>	Special provisions Cargo Only Packing Instructions Cargo Only Maximum Qty / Pack Passenger and Cargo Packing Instructions Passenger and Cargo Maximum Qty / Pack Passenger and Cargo Limited Quantity Packing Instructions Passenger and Cargo Maximum Qty / Pack

**Sea transport (IMDG-Code / GGVSee)**

<b>UN number</b>	1263
<b>Packing group</b>	III
<b>UN proper shipping name</b>	PAINT
<b>Environmental hazard</b>	No relevant data
<b>Transport hazard class(es)</b>	IMDG Class : 3 IMDG Subrisk :
<b>Special precautions for user</b>	EMS Number : F-E,S-E Special provisions : 163 223 955 Limited Quantities : 5 L

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002662	Surface Coatings and Colourants (Flammable) Group Standard 2006

<b>solvent naphtha petroleum, heavy aromatic(64742-94-5) is found on the following regulatory lists</b>	"New Zealand Inventory of Chemicals (NZIoC)", "Sigma-AldrichTransport Information", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD List of High Production Volume (HPV) Chemicals", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Chemical Secretariat (ChemSec) SIN List ("Substitute It Now!")", "OSPAR List of Chemicals for Priority Action"
<b>xylene(1330-20-7) is found on the following regulatory lists</b>	"New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "FisherTransport Information", "International Fragrance Association (IFRA) Survey: Transparency List", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "OSPAR List of Chemicals for Priority Action", "OECD List of High Production Volume (HPV) Chemicals", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "New Zealand Workplace Exposure Standards (WES)", "IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water"
<b>n-butyl acetate(123-86-4) is found on the following regulatory lists</b>	"New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "Sigma-AldrichTransport Information", "Acros Transport Information", "FisherTransport Information", "International Fragrance Association (IFRA) Survey: Transparency List", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IOFI Global Reference List of Chemically Defined Substances", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution - Norway"

**toluene diisocyanate(26471-62-5) is found on the following regulatory lists**

"New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "IMO IBC Code Chapter 17: Summary of minimum requirements", "New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Council of Chemical Associations (ICCA) - High Production Volume List", "New Zealand Cosmetic Products Group Standard - Schedule 4: Components Cosmetic Products Must Not Contain - Table 1", "OECD List of High Production Volume (HPV) Chemicals", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Scheduled Toxic Substances", "Sigma-Aldrich Transport Information", "Fisher Transport Information", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "New Zealand Workplace Exposure Standards (WES)"

## SECTION 16 OTHER INFORMATION

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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