

Era Polymers Pty Ltd

Chemwatch: 9-41229

Version No: 1.4

Safety Data Sheet according to HSNO Regulations

Print Date: 21/11/2013

Issue Date: 21/11/2013

S.GHS.NZL.EN

## SECTION 1 Identification of the substance / mixture and of the company / undertaking

### Product Identifier

Product name:	DUOTHANE PART A
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 B.
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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. Classified as Dangerous Goods for transport purposes.

### ChemWatch Hazard Ratings

	Rating	Min	Max
Flammability	2	0	4
Toxicity	2	0	4
Body Contact	2	0	4
Reactivity	1	0	4
Chronic	2	0	4

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

### GHS Classification<sup>[1]</sup>:

STOT - SE (Narcosis) Category 3, Aspiration Hazard Category 1, Flammable Liquid Category 3

**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, 6.1E (aspiration), 6.9 (narcotic)

### Label elements

#### GHS label elements



Signal word: DANGER

### Hazard statement(s):

H226 Flammable liquid and vapour

H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
<b>Precautionary statement(s): Prevention</b>	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
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.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement(s): Response</b>	
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use... to extinguish.
<b>Precautionary statement(s): Storage</b>	
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
<b>Precautionary statement(s): Disposal</b>	
P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

## SECTION 3 Composition / information on ingredients

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
64742-94-5	30-60	<a href="#">solvent naphtha petroleum, heavy aromatic</a>
108-65-6	10-30	<a href="#">propylene glycol monomethyl ether acetate, alpha-isomer</a>
123-86-4	<10	<a href="#">n-butyl acetate</a>
Not Available	30-60	All other substances non hazardous

## SECTION 4 First aid measures

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

### Description of first aid measures

#### Eye Contact:

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- 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.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### Skin Contact:

If skin or hair contact occurs:

- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### Inhalation:

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- 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.
- Transport to hospital, or doctor.

#### Ingestion:

- **If swallowed do NOT induce vomiting.**
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.
- Avoid giving milk or oils.
- Avoid giving alcohol.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

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

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.

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- 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> 50 mm Hg) should be intubated.
- 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.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.

- 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.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorst and Barceloux: Medical Toxicology]

Treat symptomatically.  
for simple esters:

#### BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .
- Monitor and treat, where necessary, for shock.
- **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- Give activated charcoal.

#### ADVANCED TREATMENT

- Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- Positive-pressure ventilation using a bag-valve mask might be of use.
- Monitor and treat, where necessary, for arrhythmias.
- Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- Treat seizures with diazepam.
- Proparacaine hydrochloride should be used to assist eye irrigation.

#### EMERGENCY DEPARTMENT

- Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

## SECTION 5 Firefighting measures

### Extinguishing media

- Foam.
- 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.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.

#### Fire/Explosion Hazard:

- Liquid and vapour are flammable.
- Moderate fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Moderate explosion hazard when exposed to heat or flame.
- Vapour may travel a considerable distance to source of ignition.

## 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:

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- 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

- Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.

- **DO NOT** allow clothing wet with material to stay in contact with skin
- Overheating of ethoxylates/ alkoxyates in air should be avoided.

#### Other information

Ethoxylates/ alkoxyates react slowly with air or oxygen. Storage under heated conditions in the presence of air or oxygen increases reaction rate. For example, after storing at 95 F/ 35 C for 30 days in the presence of air, there is measurable oxidation of the ethoxylate. Lower temperatures will allow for longer storage time and higher temperatures will shorten the storage time if stored under an air or oxygen atmosphere.

- Store in original containers in approved flammable liquid storage area.

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

##### Suitable container:

For ethoxylates suitable containers include carbon steel coated with baked phenolic.

Any moisture may cause rusting of carbon steel.

If product is moisture free, uncoated carbon steel tanks may be used.

- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.

##### Storage incompatibility:

- Esters react with acids to liberate heat along with alcohols and acids.
- Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products.
- Heat is also generated by the interaction of esters with caustic solutions.
- Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.
- Esters may be incompatible with aliphatic amines and nitrates.

##### 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)	n-butyl acetate	n-Butyl acetate	713 (mgm3) / 150 (ppm)	950 (mgm3) / 200 (ppm)	Not Available	Not Available

##### Emergency Limits

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
solvent naphtha petroleum, heavy aromatic	500(ppm)	750(ppm)	750(ppm)	750(ppm)
propylene glycol monomethyl ether acetate, alpha-isomer	50(ppm)	150(ppm)	250(ppm)	600(ppm)
n-butyl acetate	5(ppm)	5(ppm)	200(ppm)	3000(ppm)

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

#### Exposure controls

##### Appropriate engineering controls

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:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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.

##### Personal protection



##### Eye and face protection:

- Safety glasses with side shields.
- Chemical goggles.
- 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.

##### Skin protection:

See Hand protection below

##### Hand protection:

For esters:

- Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials.

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.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and

##### Body protection:

See Other protection below

##### Other protection:

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

##### Thermal hazards:

##### Recommended material(s):

GLOVE SELECTION INDEX

##### Respiratory protection:

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard"

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 A

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**

(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

#### Appearance

Clear, amber coloured liquid

<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.980
<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 Available	<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>	155-175	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	38	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	0.3	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	7	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	0.9	<b>Volatile Component (%vol)</b>	56
<b>Vapour pressure (kPa)</b>	1.33	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Not Available	<b>pH as a solution(1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	4.25		

## SECTION 10 Stability and reactivity

#### Reactivity:

See section 7

#### Chemical stability:

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

#### Possibility of hazardous reactions:

See section 7

#### Conditions to avoid:

See section 7

#### Incompatible materials:

See section 7

#### Hazardous decomposition products:

See section 5

## SECTION 11 Toxicological information

### Information on toxicological effects

#### Inhaled:

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.

Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs.

#### Ingestion:

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. Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).

Accidental ingestion of the material may be damaging to the health of the individual.

Nonionic surfactants may produce localised irritation of the oral or gastrointestinal mucosa and induce vomiting and mild diarrhoea.

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.

#### Skin Contact:

Repeated exposure may cause skin cracking, flaking or drying following normal handling and use.

One of the mechanisms of skin irritation caused by surfactants is considered to be denaturation of the proteins of skin. It has also been established that there is a connection between the potential of surfactants to denature protein in vitro and their effect on the skin. Nonionic surfactants do not carry any net charge and, therefore, they can only form hydrophobic bonds with proteins. For this reason, proteins are not deactivated by nonionic surfactants, and proteins with poor solubility are not solubilized by nonionic surfactants

#### Eye:

Limited evidence exists, or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals and/or is expected to produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

Some nonionic surfactants may produce a localised anaesthetic effect on the cornea; this may effectively eliminate the warning discomfort produced by other substances and lead to corneal injury. Irritant effects range from minimal to severe dependent on the nature of the surfactant, its concentration and the duration of contact. Pain and corneal damage represent the most severe manifestation of irritation.

#### Chronic:

Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Repeated exposure to higher concentrations of propylene glycol monomethyl ether acetate (PGMEA) (1000 ppm and above) causes mild liver and kidney damage in animals.

A minor component, 2-methoxy-1-propyl acetate (the beta-isomer) produced birth defects on inhalation exposure of pregnant rabbits at 545 ppm, but not at 145 or 36 ppm; maternal and embryo/foetal toxicity on inhalation exposure of pregnant rats at 2710 ppm, but not at 545 or 110 ppm; and no adverse effects on dermal exposure of pregnant rabbits at applied dosages of 1000 and 2000 mg/kg of body weight per day during the critical period or embryo/foetal development. In a further study, no developmental effects were seen following exposure of pregnant rats at air concentrations of commercial propylene glycol monomethyl ether acetate (containing 3-5% of the minor component) up to 4000 ppm; slight maternal effects were seen at 5000 ppm and greater.

TOXICITY	IRRITATION
<b>DUOTHANE PART A</b>	
Not Available	Not Available
<b>solvent naphtha petroleum, heavy aromatic</b>	
Dermal (rabbit) LD50: >3160 mg/kg	[PETROFIN]
Oral (rat) LD50: 3200 mg/kg	Eye (rabbit): Irritating
Not Available	Not Available
<b>propylene glycol monomethyl ether acetate, alpha-isomer</b>	
Dermal (rabbit) LD50: >5000 mg/kg*	* [CCINFO]
Inhalation (rat) LC50: 4345 ppm/6h	Nil reported
Oral (rat) LD50: 8532 mg/kg	
Not Available	Not Available
<b>n-butyl acetate</b>	
Dermal (rabbit) LD50: 3200 mg/kg*	* [PPG]
Inhalation (rat) LC50: 2000 ppm/4H	Eye (human): 300 mg
Inhalation (Rat) LC50: 390 ppm/4h	Eye (rabbit): 20 mg (open)-SEVERE
Intraperitoneal (Mouse) LD50: 1230 mg/kg	Eye (rabbit): 20 mg/24h - moderate
Oral (Guinea pig) LD50: 4700 mg/kg	g
Oral (Rabbit) LD50: 3200 mg/kg	Skin (rabbit): 500 mg/24h-moderate
Oral (Rat) LD50: 10768 mg/kg	
Oral (rat) LD50: 13100 mg/kg	
Not Available	Not Available

#### DUOTHANE PART A

No significant acute toxicological data identified in literature search.

for propylene glycol ethers (PGEs):

Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM).

Testing of a wide variety of propylene glycol ethers Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on reproductive organs, the developing embryo and fetus, blood (haemolytic effects), or thymus, are not seen with the commercial-grade propylene glycol ethers.

#### SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC

##### for petroleum:

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

#### PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE, ALPHA-ISOMER

for propylene glycol ethers (PGEs):

Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM).

Testing of a wide variety of propylene glycol ethers Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The common toxicities associated with the lower molecular weight homologues of the ethylene series, such as adverse effects on reproductive organs, the developing embryo and fetus, blood (haemolytic effects), or thymus, are not seen with the commercial-grade propylene glycol ethers. In the ethylene series, metabolism of the terminal hydroxyl group produces an alkoxyacetic acid.

A BASF report (in ECETOC ) showed that inhalation exposure to 545 ppm PGMEA (beta isomer) was associated with a teratogenic response in rabbits; but exposure to 145 ppm and 36 ppm had no adverse effects. The beta isomer of PGMEA comprises only 10% of the commercial material, the remaining 90% is alpha isomer. Hazard appears low but emphasizes the need for care in handling this chemical. [I.C.]

#### N-BUTYL ACETATE

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>	Not Applicable	<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>	STOT - SE (Narcosis) Category 3
<b>Respiratory or Skin sensitisation:</b>	Not Applicable	<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 surfactants:

#### Environmental fate:

Octanol/water partition coefficients cannot easily be determined for surfactants because one part of the molecule is hydrophilic and the other part is hydrophobic. Consequently they tend to accumulate at the interface and are not extracted into one or other of the liquid phases. As a result surfactants are expected to transfer slowly, for example, from water into the flesh of fish.

### 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****Product / Packaging disposal:**

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction

Insure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

**SECTION 14 Transport information****Labels Required:****Marine Pollutant: NO**

HAZCHEM: •3YE; •3Y

**Land transport (UN)**

UN number		Packing group	
1263	PAINT	III	

UN proper shipping name

Environmental hazard

No relevant data

Transport hazard class(es)	Class:	3	Special precautions for user	Special provisions	163; 223
	Subrisk:			limited quantity	5 L

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

UN number		Packing group	
1263	Paint	III	

UN proper shipping name

Environmental hazard

No relevant data

Transport hazard class(es)	ICAO/IATA Class:	3	Special precautions for user	Special provisions:	A3A72
	ICAO / IATA Subrisk:			Cargo Only Packing Instructions:	366
	ERG Code:	3L		Cargo Only Maximum Qty / Pack:	220 L
				Passenger and Cargo Packing Instructions:	355
			Passenger and Cargo Maximum Qty / Pack:	60 L	
			Passenger and Cargo Limited Quantity Packing Instructions:	Y344	
			Passenger and Cargo Maximum Qty / Pack:	10 L	

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

UN number		Packing group	
1263	PAINT	III	

UN proper shipping name

Environmental hazard

No relevant data

Transport hazard class(es)	IMDG Class:	3	Special precautions for user	EMS Number:	F-E,S-E
	IMDG Subrisk:			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

solvent naphtha petroleum, heavy aromatic(64742-94-5) is found on the following regulatory lists

"Sigma-AldrichTransport Information", "New Zealand Inventory of Chemicals (NZIoC)", "OECD List of High Production Volume (HPV) Chemicals", "International Council of Chemical Associations (ICCA) - High Production Volume List", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Maritime Dangerous Goods Requirements (IMDG Code)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "International Chemical Secretariat (ChemSec) SIN List (\*Substitute It Now!)", "OSPAR List of Chemicals for Priority Action"

**propylene glycol monomethyl ether acetate, alpha-isomer(108-65-6) is found on the following regulatory lists**

"GESAMP/EHS Composite List - GESAMP Hazard Profiles", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "FisherTransport Information", "Sigma-AldrichTransport Information", "New Zealand Inventory of Chemicals (NZIoC)", "OECD List of High Production Volume (HPV) Chemicals", "International Council of Chemical Associations (ICCA) - High Production Volume List", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Maritime Dangerous Goods Requirements (IMDG Code)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "OSPAR National List of Candidates for Substitution – Norway"

**n-butyl acetate(123-86-4) is found on the following regulatory lists**

"New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "FisherTransport Information", "Sigma-AldrichTransport Information", "Acros Transport Information", "International Fragrance Association (IFRA) Survey: Transparency List", "International Council of Chemical Associations (ICCA) - High Production Volume List", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Maritime Dangerous Goods Requirements (IMDG Code)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "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", "New Zealand Inventory of Chemicals (NZIoC)", "IOFI Global Reference List of Chemically Defined Substances", "OECD List of High Production Volume (HPV) Chemicals", "IMO IBC Code Chapter 17: Summary of minimum requirements", "OSPAR National List of Candidates for Substitution – Norway"

## 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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