

# WATTYL ESTAPOL 7008 (PART A )

Chemwatch Material Safety Data Sheet  
Issue Date: Thu 22-Jul-2004

CHEMWATCH 15232

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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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### PRODUCT NAME

WATTYL ESTAPOL 7008 (PART A )

### SYNONYMS

"Polyurethane two pack floor coating", "base component"

### PROPER SHIPPING NAME

PAINT

### PRODUCT USE

Part A or Base of a 2 pack. urethane coating system. Requires that the two parts be mixed by hand or mixer before use, in accordance with manufacturers directions. Mix only as much as is required. Do not return the mixed material to the original containers. CONTAINS free organic isocyanate. Mixing and application requires special precautions and use of personal protective gear [APMF]. For the protection of interior timber surfaces.

### SUPPLIER

Company: WattyL Australia Pty Ltd  
Address:  
4 Steel St  
Blacktown  
NSW, 2148  
AUS  
Telephone: +61 2 9621 6255  
Fax: +61 2 9831 4244

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## Section 2 - HAZARDS IDENTIFICATION

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### STATEMENT OF HAZARDOUS NATURE

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the  
Criteria of NOHSC, and the ADG Code.**

### POISONS SCHEDULE

S5

### RISK

Flammable.  
May form explosive peroxides.  
Harmful by inhalation and in contact with skin.  
Irritating to eyes and skin.  
HARMFUL-May cause lung damage if swallowed.  
Ingestion may produce health damage\*.  
Cumulative effects may result following exposure\*.  
May produce discomfort of the respiratory system\*.  
Limited evidence of a carcinogenic effect\*.  
Possible respiratory and skin sensitiser\*.  
May be harmful to the foetus/ embryo\*.  
Vapours potentially cause drowsiness and dizziness\*.  
\* (limited evidence).

### SAFETY

Keep container in a well ventilated place.  
Avoid exposure - obtain special instructions before use.  
To clean the floor and all objects contaminated by this material, use water and detergent.  
Keep container tightly closed.  
Keep away from food, drink and animal feeding stuffs.  
Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label if possible).

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### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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NAME	CAS RN	%
polyol/polyester resin		30-60
xylene	1330-20-7	10-30
ethyl-3-ethoxypropionate	763-69-9	10-30
additives		<10

contains less than 0.1% benzene

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### Section 4 - FIRST AID MEASURES

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#### SWALLOWED

- 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.

#### EYE

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.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

#### SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

#### INHALED

- 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.

#### NOTES TO PHYSICIAN

For acute or short term repeated exposures to xylene:

- 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.
- Pulmonary absorption is rapid with about 60-65% retained at rest.
- Primary threat to life from 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 ( $pO_2 < 50$  mm Hg or  $pCO_2 > 50$  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.
- BIOLOGICAL EXPOSURE INDEX - BEI  
These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

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	

- For sub-chronic and chronic exposures to isocyanates:
  - This material may be a potent pulmonary sensitiser which causes bronchospasm even in patients without prior airway hyperreactivity.
  - Clinical symptoms of exposure involve mucosal irritation of respiratory and gastrointestinal tracts.
  - Conjunctival irritation, skin inflammation (erythema, pain vesiculation) and gastrointestinal disturbances occur soon after exposure.
  - Pulmonary symptoms include cough, burning, substernal pain and dyspnoea.
  - Some cross-sensitivity occurs between different isocyanates.
  - Noncardiogenic pulmonary edema and bronchospasm are the most serious consequences of exposure. Markedly symptomatic patients should receive oxygen, ventilatory support and an intravenous line.
  - Treatment for asthma includes inhaled sympathomimetics (epinephrine [adrenalin], terbutaline) and steroids.
  - Activated charcoal (1 g/kg) and a cathartic (sorbitol, magnesium citrate) may be useful for ingestion.
  - Mydriatics, systemic analgesics and topical antibiotics (Sulamyd) may be used for corneal abrasions.
  - There is no effective therapy for sensitised workers. [Ellenhorn and Barceloux; Medical Toxicology]
- NOTE: Isocyanates cause airway restriction in naive individuals with the degree of response dependant on the concentration and duration of exposure. They induce smooth muscle contraction which leads to bronchoconstrictive episodes. Acute changes in lung function, such as decreased FEV1, may not represent sensitivity. [Karol & Jin, Frontiers in Molecular Toxicology, pp 56-61, 1992].

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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

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

### 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.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 500 metres in all directions.

### 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.
- Heating may cause expansion or decomposition leading to violent rupture of

containers.

· On combustion, may emit toxic fumes of carbon monoxide (CO)., Combustion products include.

other pyrolysis products typical of burning organic material.

WARNING: Long standing in contact with air and light may result in the formation of potentially explosive peroxides.

### FIRE INCOMPATIBILITY

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

### HAZCHEM

3[Y]

### Personal Protective Equipment

PERSONAL PROTECTION EQUIPMENT

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set - 30 mins.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

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### 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 by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- Collect residues in a flammable waste container.

#### 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.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse / absorb vapour.
- Contain spill with sand, earth or vermiculite.
- Use only spark-free shovels and explosion proof equipment.
- Collect recoverable product into labelled containers for recycling.
- Absorb remaining product with sand, earth or vermiculite.
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- If contamination of drains or waterways occurs, advise emergency services.

### PROTECTIVE ACTIONS FOR SPILL

From IERG (Canada/Australia)

Isolation Distance	25 metres
Downwind Protection Distance	300 metres
IERG Number	14

#### FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible

- health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
  - 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".  
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
  - 5 Guide 128 is taken from the US DOT emergency response guide book.
  - 6 IERG information is derived from CANUTEC - Transport Canada.

### EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:  
 xylene 900 ppm  
 ethyl-3-ethoxypropionate 500 mg/m<sup>3</sup>

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:  
 xylene 200 ppm  
 ethyl-3-ethoxypropionate 400 mg/m<sup>3</sup>

other than mild, transient adverse effects without perceiving a clearly defined odour is:  
 xylene 150 ppm  
 ethyl-3-ethoxypropionate 60 mg/m<sup>3</sup>

The threshold concentration below which most people will experience no appreciable risk of health effects:  
 xylene 100 ppm  
 ethyl-3-ethoxypropionate 20 mg/m<sup>3</sup>

American Industrial Hygiene Association (AIHA)

Ingredients considered exceed the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

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

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## Section 7 - HANDLING AND STORAGE

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### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
  - Wear protective clothing when risk of overexposure occurs.
  - Use in a well-ventilated area.
  - Prevent concentration in hollows and sumps.
  - DO NOT enter confined spaces until atmosphere has been checked.
  - Avoid smoking, naked lights or ignition sources.
  - Avoid generation of static electricity.
  - DO NOT use plastic buckets.
  - Earth all lines and equipment.
  - Use spark-free tools when handling.
  - Avoid contact with incompatible materials.
  - When handling, DO NOT eat, drink or smoke.
  - Keep containers securely sealed when not in use.
  - Avoid physical damage to containers.
  - Always wash hands with soap and water after handling.
  - Work clothes should be laundered separately.
  - Use good occupational work practice.
  - Observe manufacturer's storing and handling recommendations.
  - Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.
- DO NOT allow clothing wet with material to stay in contact with skin.

### SUITABLE CONTAINER

Packing as supplied by manufacturer. Plastic containers may only be used if approved for flammable liquid. Check that containers are clearly labelled and

free from leaks.

- For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.
- For materials with a viscosity of at least 2680 cSt. (23 deg. C)
- For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)
- Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)
- (i) : Removable head packaging;
- (ii) : Cans with friction closures and
- (iii) : low pressure tubes and cartridges may be used.
- Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages
- In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

### STORAGE INCOMPATIBILITY

Avoid reaction with oxidising agents.

### STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Keep containers securely sealed.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>
Australian Exposure Standards	Xylene (o-, m-, p- isomers)	80	350	150	655		
No data available for ethyl-3-ethoxypropionate as (CAS: 763-69-9)							

### ODOUR SAFETY FACTOR (OSF)

OSF=4 (XYLENE)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

Classification into classes follows:

Class	OSF	Description
A	550	Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities
B	26-550	As "A" for 50-90% of persons being distracted
C	1-26	As "A" for less than 50% of persons being distracted
D	0.18-1	10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached
E	<0.18	As "D" for less than 10% of persons aware of being tested

**EXPOSURE STANDARDS FOR MIXTURE**

"worst Case" computer-aided prediction of vapour components/concentrations:

"worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>): 300 mg/m<sup>3</sup>

"worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>):

If the breathing zone concentration of ANY of the components listed below is

exceeded, "worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m<sup>3</sup> Mixture Conc: (%)

Component	Breathing zone (ppm)	Breathing Zone (mg/m <sup>3</sup> )	Mixture Conc (%)
ethyl-3-ethoxypropionate	50.00	300.0000	30.0

"worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>):

If the breathing zone concentration of ANY of the components listed below is

exceeded, "worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m<sup>3</sup> Mixture Conc: (%)

Operations which produce a spray/mist or fume/dust, introduce particulates to

the breathing zone.

If the breathing zone concentration of ANY of the components listed below is

exceeded, "worst Case" considerations deem the individual to be overexposed.

"worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m<sup>3</sup>):

If the breathing zone concentration of ANY of the components listed below is

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Operations which produce a spray/mist or fume/dust, introduce particulates to

the breathing zone.

If the breathing zone concentration of ANY of the components listed below is

exceeded, "worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m<sup>3</sup>): 30 mg/m<sup>3</sup>

**REPRODUCTIVE HEALTH GUIDELINES**

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits.

Ingredient	ORG	UF	Endpoint	CR	TLV Adeq
xylene	1.5 mg/m <sup>3</sup>	10	D	NA	-

These exposure guidelines have been derived from a screening level of risk

assessment and should not be construed as unequivocally safe limits. ORGs

represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

**INGREDIENT DATA**

XYLENE:

Odour Threshold value: 20 ppm (detection), 40 ppm (recognition)

NOTE: Detector tubes for o-xylene, measuring in excess of 10 ppm, are

available commercially. (m-xylene and p-xylene give almost the same

response)

xylene vapour is an irritant to the eyes, mucous membranes and skin and

causes narcosis at high concentrations. Exposure to doses sufficiently high

to produce intoxication and unconsciousness also produces transient liver

and kidney toxicity. Neurologic impairment is NOT evident amongst

volunteers inhaling up to 400 ppm though complaints of ocular and upper

respiratory tract irritation occur at 200 ppm for 3 to 5 minutes.

Exposure to xylene at or below the recommended TLV-TWA and STEL is thought

to minimise the risk of irritant effects and to produce neither significant

narcosis or chronic injury. An earlier skin notation was deleted because

percutaneous absorption is gradual and protracted and does not

substantially contribute to the dose received by inhalation.

ETHYL-3-ETHOXYPROPIONATE:

No exposure limits set by NOHSC or ACGIH.

CEL TWA: 50 ppm, 300mg/m<sup>3</sup> [Eastman]

**PERSONAL PROTECTION****EYE**

- . 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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

## HANDS/FEET

Wear chemical protective gloves, eg. PVC.  
Wear safety footwear or safety gumboots, eg. Rubber.

## OTHER

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

## 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 selection: xylene

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 selection:  
Protective Material CPI \*.

PE/EVAL/PE	A
PVA	A
VITON	A
TEFLON	A
PVDC/PE/PVDC	C
NATURAL+NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE+PVC	C
HYPALON	C
NAT+NEOPR+NITRILE	C
BUTYL	C
BUTYL/NEOPRENE	C
NITRILE	C
NEOPRENE	C
PVC	C

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 selection:  
Protective 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: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## RESPIRATOR

Respiratory protection may be required when ANY "Worst Case" vapour-phase concentration is exceeded (see Computer Prediction in "Exposure Standards").

Protection Factor (Min)	Half-Face Respirator	Full-face Respirator
10 x ES	A-AUS A-PAPR-AUS	- -
20 x ES	-	A-AUS A-PAPR-AUS
100 x ES	-	A-2 A-PAPR-2

^ - Full-face.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

## ENGINEERING CONTROLS

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment

should be explosion-resistant.

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## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

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### APPEARANCE

Colourless highly flammable liquid; does not mix with water.  
Characteristic solvent odour.

### PHYSICAL PROPERTIES

Liquid.

Does not mix with water.

Sinks in water.

Molecular weight: Not applicable.  
Melting Range (°C): Not available.  
Solubility in water (g/L): Immiscible  
pH (1% solution): Not applicable.  
Volatile Component (%vol): 40-50 approx  
Relative Vapour Density (air=1): >1  
Lower Explosive Limit (%): 1.0  
Autoignition Temp (°C): 369  
State: Liquid

Boiling Range (°C): 145-165  
Specific Gravity (water=1): 1.024  
pH (as supplied): Not applicable  
Vapour Pressure (kPa): >1  
Evaporation Rate: Not available  
Flash Point (°C): 29  
Upper Explosive Limit (%): 7.0  
Decomposition Temp (°C):

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## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

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### CONDITIONS CONTRIBUTING TO INSTABILITY

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

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## Section 11 - TOXICOLOGICAL INFORMATION

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### POTENTIAL HEALTH EFFECTS

#### ACUTE HEALTH EFFECTS

##### SWALLOWED

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

Considered an unlikely route of entry in commercial/industrial environments. The liquid may produce gastrointestinal discomfort and may be harmful if swallowed. Ingestion may result in nausea, pain and vomiting. Vomit entering the lungs by aspiration may cause potentially lethal chemical pneumonitis.

##### EYE

This material can cause eye irritation and damage in some persons. The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

##### SKIN

This material can cause inflammation of the skin on contact in some persons.

The material may accentuate any pre-existing dermatitis condition. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous membranes may also contribute to overall exposure and may also invalidate the exposure standard. Toxic effects may result from skin absorption.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

**INHALED**

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

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

Xylene is a central nervous system depressant.

Headache, fatigue, tiredness, irritability and digestive disturbances (nausea, loss of appetite and bloating) are the most common symptoms of xylene overexposure. Injury to the heart, liver, kidneys and nervous system has also been noted amongst workers. Temporary memory loss, kidney impairment, temporary confusion and some evidence of disturbance of liver function was reported in workers grossly exposed to xylene (1%). One death was noted, with autopsy revealing lung congestion, oedema and local bleeding of alveoli. Inhaling xylene at 100 ppm for 5-6 hours can increase reaction time and cause slight inco-ordination. Tolerance developed during the work week, but was lost over the weekend. Physical exercise may reduce tolerance. About 4-8% of total absorbed xylene accumulates in fat.

If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.

**CHRONIC HEALTH EFFECTS**

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects. Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis). Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects. Evaluation of workers chronically exposed to xylene has demonstrated lack of genetic toxicity. Exposure to xylene has been associated with increased rates of blood cancer, but this may be complicated by exposure to other substances, including benzene. Animal testing found no evidence of cancer-causing activity. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS].

**TOXICITY AND IRRITATION**

Not available. Refer to individual constituents.  
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

**XYLENE:****TOXICITY**

Oral (human) LDLo: 50 mg/kg  
Oral (rat) LD50: 4300 mg/kg  
Inhalation (human) TCLO: 200 ppm  
Inhalation (man) LCLO: 10000 ppm/6h  
Inhalation (rat) LC50: 5000 ppm/4h  
Reproductive effector in rats

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

**IRRITATION**

Skin (rabbit): 500 mg/24h Moderate  
Eye (human): 200 ppm irritant  
Eye (rabbit): 87 mg Mild  
Eye (rabbit): 5 mg/24h SEVERE

**ETHYL-3-ETHOXYPROPIONATE:****TOXICITY**

Oral (rat) LD50: 5000 mg/kg  
Oral (rat) LD50: 5140 mg/kg  
Dermal (rabbit) LD50: 10000 mg/kg  
Dermal (rabbit) LD50: 4076 mg/kg  
Inhalation (rat) LC50: 1250 ppm/4h

\* Union Carbide

\*\* Endura Manufacturing

**IRRITATION**

Skin (rabbit): 10 mg/24h open Mild  
Eye (rabbit): 500mg/24h - Mild

**Section 12 - ECOLOGICAL INFORMATION**

DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

**XYLENE:**

Fish LC50 (96hr.) (mg/l): 13.5  
 BCF<100: 2.14-2.20  
 log Kow (Prager 1995): 3.12-3.20  
 Half-life Soil - High (hours): 672  
 Half-life Soil - Low (hours): 168  
 Half-life Air - High (hours): 44  
 Half-life Air - Low (hours): 2.6  
 Half-life Surface water - High (hours): 672  
 Half-life Surface water - Low (hours): 168  
 Half-life Ground water - High (hours): 8640  
 Half-life Ground water - Low (hours): 336  
 Aqueous biodegradation - Aerobic - High (hours): 672  
 Aqueous biodegradation - Aerobic - Low (hours): 168  
 Aqueous biodegradation - Anaerobic - High (hours): 8640  
 Aqueous biodegradation - Anaerobic - Low (hours): 4320  
 Photolysis maximum light absorption - High (nano-m): 269.5  
 Photolysis maximum light absorption - Low (nano-m): 265  
 Photooxidation half-life water - High (hours): 2.70E+08  
 Photooxidation half-life water - Low (hours): 3.90E+05  
 Photooxidation half-life air - High (hours): 44  
 Photooxidation half-life air - Low (hours): 2.6

**ETHYL-3-ETHOXYPROPIONATE:**

log Kow : 1.25  
 Acute aquatic effects  
 Toxicity (fathead minnow): LC50(96h) 65 uL./L.; NOEC: 10 uL./L.  
 Toxicity (flatworm): LC50 (96h) 32 uL./L.; NOEC: 10 uL./L.  
 Toxicity (sideswimmer): LC50(96) > 100 uL./L.; NOEC: 100 uL./L.  
 Toxicity (daphnid): LC50(96) > 100 uL./L.; NOEC: 100 uL./L.  
 Toxicity (pill bug): LC50(96) > 100 uL./L.; NOEC: 100 uL./L.  
 Toxicity (aquatic earthworm): LC50(96) > 100 uL./L.; NOEC: 100 uL./L.  
 Toxicity (snail): LC50(96) > 100 uL./L.; NOEC: 100 uL./L.  
 Biodegradation  
 28 day test for ready biodegradability using unacclimatised microorganisms showed 43% degradation as measured by loss of dissolved organic carbon oxygen demand rate  
 ThOD: 1.97 g oxygen/g  
 COD: 1.92 g oxygen/g  
 BOD-5 @ 10 uL/L.: 0.37 g oxygen/ml  
 BOD-20 @ 20 uL/L.: 0.56 g oxygen/ml  
 Secondary waste water treatment effects: 5hour IC-50: >5000 mg/L.  
 7-day plant germination effects - No adverse effect concentration:  
 Lettuce: 100 uL./L.  
 Radish: 10 uL./L.  
 Ryegrass: 100 uL./L.

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## Section 13 - DISPOSAL CONSIDERATIONS

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Puncture containers to prevent re-use and bury at an authorised landfill.

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## Section 14 - TRANSPORTATION INFORMATION

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Shipping Name:  
 PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)  
 Dangerous Goods Class: 3  
 Subrisk: None  
 UN/NA Number: 1263  
 Packing Group: III  
 Labels Required: flammable liquid  
 Additional Shipping Information:  
 International Transport Regulations:  
 IMO Dangerous Goods class: 3  
 IMO Packing group: None  
 IATA Dangerous goods class: 3  
 Cargo Instructions: 310  
 Cargo Max: 220 L  
 Passenger Instructions: 309  
 Passenger Max: 60 L  
 Special Provisions: A72, None

**HAZCHEM**

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## Section 15 - REGULATORY INFORMATION

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**POISONS SCHEDULE**

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**REGULATIONS**

xylene (CAS: 1330-20-7) is found on the following regulatory lists:  
Australian Inventory of Chemical Substances (AICS)  
Australian Poisons Schedule  
Australia High Volume Industrial Chemical List (HVICL)

ethyl-3-ethoxypropionate (CAS: 763-69-9) is found on the following regulatory lists:  
Australian Inventory of Chemical Substances (AICS)

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**Section 16 - OTHER INFORMATION**

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