ENAMEL THINNER E250

HiChem Paint Technologies Pty Ltd

Chemwatch: 63-5690
Version No: 2.1.1.1
Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>ENAMEL THINNER E250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>Not Available</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>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)</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

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

Relevant identified uses

The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.

As a recommended thinner for thinning HICHEM industrial primers and finishes prior to application.

Details of the supplier of the safety data sheet

Registered company name

HiChem Paint Technologies Pty Ltd

Address

73 Hallam South Road Hallam VIC 3803 Australia

Telephone
+61 3 9796 3400

Fax
+61 3 9796 4500

Website

www.hichem.com.au

Email

info@hichem.com.au

Emergency telephone numbers

Association / Organisation

HiChem Paint Technologies

Emergency telephone numbers

In Australia: HiChem: +61 3 9796 3400

+800 2436 225

CHEMWATCH EMERGENCY RESPONSE

Primary Number

1800 039 008

Alternative Number 1

1800 039 008

Alternative Number 2

+612 9186 1132

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

| HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code. |

<table>
<thead>
<tr>
<th>CHEMWATCH HAZARD RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
</tr>
<tr>
<td>Flammability</td>
</tr>
<tr>
<td>Toxicity</td>
</tr>
<tr>
<td>Body Contact</td>
</tr>
<tr>
<td>Reactivity</td>
</tr>
<tr>
<td>Chronic</td>
</tr>
</tbody>
</table>

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

Poisons Schedule

S6

Flammable Liquid Category 2, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Reproductive Toxicity Category 1B, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Specific target organ toxicity - repeated exposure Category 2, Aspiration Hazard Category 1, Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3

Continued...

### GHS label elements

- **SIGNAL WORD**: DANGER

### Hazard statement(s)

- **H225**: Highly flammable liquid and vapour.
- **H302**: Harmful if swallowed.
- **H315**: Causes skin irritation.
- **H319**: Causes serious eye irritation.
- **H360**: May damage fertility or the unborn child.
- **H336**: May cause drowsiness or dizziness.
- **H373**: May cause damage to organs through prolonged or repeated exposure.
- **H304**: May be fatal if swallowed and enters airways.
- **H412**: Harmful to aquatic life with long lasting effects.

### Precautionary statement(s) Prevention

- **P201**: Obtain special instructions before use.
- **P210**: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **P260**: Do not breathe dust/fume/gas/mist/vapours/spray.
- **P271**: Use in a well-ventilated area.
- **P281**: Use personal protective equipment as required.
- **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.
- **P270**: Do not eat, drink or smoke when using this product.
- **P273**: Avoid release to the environment.
- **P280**: Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary statement(s) Response

- **P301+P310**: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- **P306+P313**: IF exposed or concerned: Get medical advice/attention.
- **P311**: Do NOT induce vomiting.
- **P320**: Take off contaminated clothing and wash before reuse.
- **P337+P313**: If eye irritation persists: Get medical advice/attention.
- **P310+P312**: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- **P302+P352**: IF ON SKIN: Wash with plenty of soap and water.
- **P303+P361+P335**: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P304+P340**: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **P332+P313**: If skin irritation occurs: Get medical advice/attention.
- **P330**: Rinse mouth.

### 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 in accordance with local regulations.

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**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

### Substances

See section below for composition of Mixtures.
Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3</td>
<td>50-60</td>
<td>toluene</td>
</tr>
<tr>
<td>64742-89-8</td>
<td>30-35</td>
<td>solvent naphtha petroleum; light aliphatic</td>
</tr>
<tr>
<td>123-86-4</td>
<td>10-15</td>
<td>n-butyl acetate</td>
</tr>
<tr>
<td>100-41-4</td>
<td>1-5</td>
<td>ethylbenzene</td>
</tr>
<tr>
<td>1330-20-7</td>
<td>1-5</td>
<td>xylene</td>
</tr>
<tr>
<td>110-54-3</td>
<td>Not Spec.</td>
<td>n-hexane</td>
</tr>
</tbody>
</table>

SECTION 4 FIRST AID MEASURES

**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 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.

**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 pharmacoologically. 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.

Following acute or short term repeated exposures to toluene:
- Toluene is absorbed across the alveolar barrier, the blood/air mixture being 1.1.2/15.6 (at 37 degrees C.) The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1:3 except in adipose where the proportion is 8:10.
- Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
- 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, oblutation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 <50 mm Hg or pCO2 > 50 mm Hg) should be intubated.
- Arythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial damage 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 (adrenaline) 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.

**A BIOLOGICAL EXPOSURE INDEX - BEI**

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Index</th>
<th>Sampling Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>o-Cresol in urine</td>
<td>0.5 mg/L</td>
<td>End of shift</td>
<td>B</td>
</tr>
<tr>
<td>Hippuric acid in urine</td>
<td>1.6 g/g creatinine</td>
<td>End of shift</td>
<td>B, NS</td>
</tr>
<tr>
<td>Toluene in blood</td>
<td>0.05 mg/L</td>
<td>Prior to last shift of workweek</td>
<td></td>
</tr>
</tbody>
</table>

NS: Non-specific determinant; also observed after exposure to other material

B: Background levels occur in specimens collected from NOT exposed

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 withuffed 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, oblutation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 <50 mm Hg or pCO2 > 50 mm Hg) should be intubated.
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**BIOLOGICAL EXPOSURE INDEX - BEI**

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Index</th>
<th>Sampling Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylhippuric 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>

**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**
- 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 in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water course.
- Consider evacuation (or protect in place).
- Fight fire from a safe distance, with adequate cover.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fire spray to control the 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.

**Fire/Explosion Hazard**
- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat, flame and/or oxidisers.
- 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: carbon dioxide (CO2)
- Other pyrolysis products typical of burning organic material.
- Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.
- May emit clouds of acrid smoke.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**
See section 8.

**Environmental precautions**
See section 12.

**Methods and material for containment and cleaning up**

**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.
- Wipe up.
- Collect residues in a flammable waste container.

**Major Spills**
- Clear area of personnel and move upward.
- 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.
- Consider evacuation (or protect in place).
- 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.
SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

The conductivity of this material may make it a static accumulator. A liquid is typically considered non-conductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m. Whether a liquid is non-conductive or semi-conductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.

- 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.
- Electrostatic discharge may be generated during pumping - this may result in fire.
- Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec).
- Avoid splash filling.
- DO NOT use compressed air for filling discharging or handling operations.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure 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, heat or ignition sources.

When handling, DO NOT eat, drink or smoke.

Vapour may ignite on pumping or pouring due to static electricity.

DO NOT use plastic buckets.

- Earth and secure metal containers when dispensing or pouring product.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- Keep containers securely sealed.
- 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 storage and handling recommendations contained within this SDS.

Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

Conditions for safe storage, including any incompatibilities

- Store in original containers in approved flame-proof area.
- No smoking, naked lights, heat or ignition sources.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- 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 storage and handling recommendations contained within this SDS.

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 1 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

- Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.
- Aromatics can react exothermically with bases and with diazo compounds.

For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring.

Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (provided a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution: a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen.

Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids.

Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides.

- Hock-rearrangement by the influence of strong acids converts the hydroperoxides to hemiacetals. Peresters formed from the hydroperoxides undergo Criegee rearrangement easily.
- Alkali metals accelerate the oxidation while CO2 as co-oxidant enhances the selectivity.
- Microwave conditions give improved yields of the oxidation products.

Photo-oxidation products may occur following reaction with hydroxyl radicals and NOx: these may be components of photochemical smogs.


SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>OCCUPATIONAL EXPOSURE LIMITS (OEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INGREDIENT DATA</td>
</tr>
</tbody>
</table>
### Exposure 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.

Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

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

Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

#### Appropriate engineering controls

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.

**Solvent, vapours, degreasing etc., evaporating from tank (in still air)**

- **Type of Contaminant:** Solvent, vapours, degreasing etc., evaporating from tank (in still air).
- **Air Speed:** 0.25-0.5 m/s (50-100 f/min.)

**Aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, picking (releasable at low velocity into zone of active generation)**

- **Type of Contaminant:** Aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, picking (releasable at low velocity into zone of active generation).
- **Air Speed:** 0.5-1 m/s (100-200 f/min.)

**Direct spray, spray painting in shallow booths, drum filling, conveyor loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)**

- **Type of Contaminant:** Direct spray, spray painting in shallow booths, drum filling, conveyor loading, crusher dusts, gas discharge (active generation into zone of rapid air motion).
- **Air Speed:** 1-2.5 m/s (200-500 f/min.)

Within each range the appropriate value depends on:

1. **Lower end of the range**
   - Room air currents minimal or favourable to capture
   - Disturbing room air currents

2. **Upper end of the range**
   - Contaminants of low toxicity or of nuisance value only.
   - Contaminants of high toxicity

3. **Intermediate, low production.**
   - High production, heavy use

4. **Large hood or large air mass in motion.**
   - Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.
### Personal 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 lenses 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 experiences. 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. Lenses 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]. [AS/NZS 1336 or national equivalent]

### Skin protection

See Hand protection below

### Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

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 has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:
- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers’ technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:
- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

### 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.

Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.

- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

### Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particles 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.

<table>
<thead>
<tr>
<th>Required Minimum Protection Factor</th>
<th>Half-Face Respirator</th>
<th>Full-Face Respirator</th>
<th>Powered Air Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 5 x ES</td>
<td>AX-AUS / Class 1</td>
<td>-</td>
<td>AX-PAPR-AUS / Class 1</td>
</tr>
<tr>
<td>up to 25 x ES</td>
<td>Air-line*</td>
<td>AX-2</td>
<td>AX-PAPR-2</td>
</tr>
<tr>
<td>up to 50 x ES</td>
<td>-</td>
<td>AX-3</td>
<td>-</td>
</tr>
<tr>
<td>50+ x ES</td>
<td>-</td>
<td>Air-line**</td>
<td>-</td>
</tr>
</tbody>
</table>

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

### 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 selection.

**ENAMEL THINNER E250**

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
<th>Protection Factor</th>
</tr>
</thead>
</table>
| #14n-butyl             | acetate
| BUTYL                  | C   |
| BUTYL/NEOPRENE         | C   |
| CPE                    | C   |
| HYPALON                | C   |
| NAT+NEOPR+NITRILE      | C   |

### Continued...
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Highly flammable colourless liquid with strong odour; not miscible with water.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting point / freezing point (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>69-140</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>-26</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Available</td>
</tr>
<tr>
<td>Flammability</td>
<td>HIGHLY FLAMMABLE.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative density (Water = 1)</th>
<th>0.86</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Auto-ignition temperature (°C)</td>
<td>240</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Molecular weight (g/mol)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Taste</td>
<td>Not Available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not Available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not Available</td>
</tr>
<tr>
<td>Surface Tension (dyn/cm or mN/m)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Volatile Component (%vol)</td>
<td>100</td>
</tr>
<tr>
<td>Gas group</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH as a solution (1%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>VOC g/L</td>
<td>988.65</td>
</tr>
</tbody>
</table>

SECTION 10 STABILITY AND REACTIVITY

Reactivity
See section 7

Chemical stability
- Unstable in the 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

^ - 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

**Inhaled**

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. 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 hazard is increased at higher temperatures.

Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.

Central nervous system (CNS) depression may include general discomfit, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>Toxicity</td>
<td>IRRITATION</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: 12124 mg/kg</td>
<td>Eye (rabbit): 2mg/24h - SEVERE</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: &gt;26700 ppm/1hr</td>
<td>Eye (rabbit): 0.87 mg - mild</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 49 mg/L/4hr</td>
<td>Eye (rabbit): 100 mg/90sec - mild</td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 636 mg/kg</td>
<td>Skin (rabbit): 20 mg/24h - moderate</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha petroleum, light aliphatic</td>
<td>Toxicity</td>
<td>IRRITATION</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;1900 mg/kg</td>
<td>Not Available</td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;4500 mg/kg</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-butyl acetate</td>
<td>Toxicity</td>
<td>IRRITATION</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;14080 mg/kg</td>
<td>Eye (human): 300 mg</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 2000 ppm/4hr</td>
<td>Eye (rabbit): 20 mg (open) - SEVERE</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 390 ppm/4hr</td>
<td>Eye (rabbit): 20 mg/24h - moderate</td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 10736 mg/kg</td>
<td>Skin (rabbit): 500 mg/24h - moderate</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethylbenzene</td>
<td>Toxicity</td>
<td>IRRITATION</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: ca.15432.6 mg/kg</td>
<td>Eye (rabbit): 500 mg - SEVERE</td>
<td></td>
</tr>
<tr>
<td>Inhalation (mouse) LC50: 35.5 mg/L/24h</td>
<td>Skin (rabbit): 15 mg/24h mild</td>
<td></td>
</tr>
</tbody>
</table>
### Toluene

**TOXICITY**

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (rat) LC50</td>
<td>55 mg/L/2hr</td>
<td>[2]</td>
</tr>
<tr>
<td>Oral (rat) LD50</td>
<td>3500 mg/kg</td>
<td>[2]</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50</td>
<td>&gt;1700 mg/kg</td>
<td>[2]</td>
</tr>
<tr>
<td>Inhalation (rat) LC50</td>
<td>5000 ppm/4hr</td>
<td>[2]</td>
</tr>
<tr>
<td>Oral (rat) LD50</td>
<td>4300 mg/kg</td>
<td>[2]</td>
</tr>
</tbody>
</table>

**IRRITATION**

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye (rabbit)</td>
<td>5 mg/24h SEVERE</td>
<td></td>
</tr>
<tr>
<td>Eye (rabbit)</td>
<td>87 mg mild</td>
<td></td>
</tr>
<tr>
<td>Skin (rabbit)</td>
<td>500 mg/24h moderate</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**
1. Value obtained from Europe ECHA Registered Substances - Acute toxicity. 2. Value obtained from manufacturer’s SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of Chemical Substances

#### For Toluene:

**Acute Toxicity**

Humans exposed to intermediate to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis, and death. Similar effects are observed in short-term animal studies.

**Humans**

- Toluene - Toluene exposure can result in severe central nervous system depression, and in large doses, can act as a narcotic. The ingestion of about 60 mL resulted in fatal nervous system depression within 30 minutes in one reported case.
- Constriction and necrosis of myocardial fibers, marked swelling of lung capillaries, and hemorrhage of the lungs and acute tubular necrosis were found on autopsy.

Central nervous system effects (headaches, dizziness, intoxication) and eye irritation occurred following inhalation exposure to 100 ppm toluene 6 hours/day for 4 days.

Exposure to 600 ppm for 8 hours resulted in the same and more serious symptoms including euphoria, dilated pupils, convulsions, and nausea. Exposure to 10,000-30,000 ppm has been reported to cause narcosis and death.

Toluene can also strip the skin of its protective barrier.

**Animals**

- The initial effects are instability and incoordination, lacrimation and sniffles (respiratory exposure), followed by narcosis. Animals die of respiratory failure from severe nervous system depression. Cloudy swelling of the kidneys was reported in rats following inhalation exposure to 1600 ppm, 18-20 hours/day for 3 days.

**Subchronic/Chronic Effects:**

- Repeat doses of toluene cause adverse central nervous system effects and can damage the upper respiratory system, the liver, and the kidney. Adverse effects occur as a result from both oral and the inhalation exposures. A reported lowest-observed-effect level in humans for adverse neurobehavioral effects is 88 ppm.

**Humans**

- Chronic occupational exposure and incidences of toluene abuse have resulted in hepatomegaly and liver function changes. It has also resulted in nephrotoxicity and, in one case, was a cardiac sensitizer and fatal cardiotoxic events.

- Neural and cerebellar dysynchrony were reported in several cases of habitual “glue sniffing.” An epidemiological study in France on workers chronically exposed to toluene fumes reported leukopenia and neutropenia. Exposure levels were not given in the secondary reference; however, the average urinary excretion of hippuric acid, a metabolite of toluene, was given as 4.6 g/L compared to a normal level of 0.6 g/L.

**Animals**

- The major target organs for the subchronic/chronic toxicity of toluene are the nervous system, liver, and kidney. Depressed immune response has been reported in male mice given doses of 105 mg/kg/day for 28 days. Toluene in corn oil administered to F344 male and female rats by gavage 5 days/week for 13 weeks, induced prostration, hypoaactivity, ataxia, piloerection, lacrimation, excess salivation, and body tremors at doses 2500 mg/kg. Liver, kidney, and heart weights were also increased at this dose and histopathologic lesions were seen in the liver, kidneys, brain and urinary bladder. The no-observed-adverse effect level (NOAEL) for the study was 312 mg/kg (223 mg/kg/day) and the lowest-observed-adverse effect level (LOAEL) for the study was 625 mg/kg (446 mg/kg/day).

**Developmental/Reproductive Toxicity**

Exposure to high levels of toluene can result in adverse effects in the developing human fetus. Several studies have indicated that high levels of toluene can also adversely affect the developing offspring in laboratory animals.

**Humans**

- Variable growth, microcephaly, CNS dysfunction, attentional deficits, minor craniofacial and limb abnormalities, and developmental delay were seen.

**Animals**

- Teratological alterations, extra ribs, and missing tails were reported following treatment of rats with 1500 mg/m3 toluene 24 hours/day during days 9-14 of gestation. Two of the dams died during the exposure. Another group of rats received 1000 mg/m3 8 hours/day during days 1-21 of gestation. No maternal deaths or toxicity occurred, however, minor skeletal retardation was present in the exposed fetuses. C1F2P Mice were exposed to 500 or 1500 mg/m3 toluene continuously during days 6-13 of pregnancy. All dams died at the high dose during the first 24 hours of exposure, however none died at 500 mg/m3. Decreased foetal weight was reported, but there were no differences in the incidences of skeletal malformations or anomalies between the treated and control offspring.

**Absorption**

- Studies in humans and animals have demonstrated that toluene is readily absorbed via the lungs and the gastrointestinal tract. Absorption through the skin is estimated at about 1% of that absorbed by the lungs when exposed to toluene vapor.

**Distribution**

- In studies with mice exposed to radioacellated toluene by inhalation, high levels of radioactivity were present in body fat, bone marrow, spinal nerves, spinal cord, and brain white matter. Lower levels of radioactivity were present in blood, kidney, and liver. Accumulation of toluene has generally been found in adipose tissue, other tissues with high fat content, and in highly vascularised tissues.

**Metabolism**

- The metabolites of inhaled or ingested toluene include benzyl alcohol resulting from the hydratysisation of the methyl group. Further oxidation results in the formation of benzaldehyde and benzoic acid. The latter is conjugated with glycine to yield hippuric acid or reacted with glucuronic acid to form benzoic and glucuronic acid.

**Excretion**

- Toluene is primarily (60-70%) excreted through the urine as hippuric acid. The excretion of benzoic and glucuronic acid accounts for 10-20%, and excretion of unchanged toluene through the lungs also accounts for 10-20%. Excretion of hippuric acid is usually complete within 24 hours after exposure.

**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 neurotoxic.

**for petrol:**

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.

**Carcinogenicity**

- Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans. Inhalation exposure to rats causes kidney tumours which are not considered relevant to humans.

**Mutagenicity**

- There is a large database of mutagenicity studies on gasoline and gasoline blending streams, which use a wide variety of endpoints and give predominately negative results. All in vivo studies in animals and recent studies in exposed humans (e.g. petrol service station attendants) have shown negative results in mutagenicity assays.
**Enamel Thinner E250**

### Reproductive Toxicity
Reproductive Toxicity: Repeated exposure of pregnant rats to high concentrations of toluene (around or exceeding 1000 ppm) can cause developmental effects, such as lower birth weight and developmental neurotoxicity, on the foetus. However, in a two-generation reproductive study in rats exposed to gasoline vapour condensate, no adverse effects on the foetus were observed.

### Human Effects
Human Effects: Prolonged repeated contact may cause defatting of the skin which can lead to dermatitis and may make the skin more susceptible to irritation and penetration by other materials.

Lifetime exposure of rodents to gasoline produces carcinogenicity although the relevance to humans has been questioned. Gasoline induces kidney cancer in male rats as a consequence of accumulation of the alpha2-microglobulin protein in hyaline droplets in the male (but not female) rat kidney. Such abnormal accumulation represents lysosomal overload and leads to chronic renal tubular cell degeneration, accumulation of cell debris, mineralisation of renal medullary tubules and necrosis. A sustained regenerative proliferation occurs in epithelial cells with subsequent neoplastic transformation with continued exposure. The alpha2-microglobulin is produced under the influence of hormonal controls in male rats but not in females and, more importantly, not in humans.

### WARNING
**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Liver changes, uterine tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.

### Acute Toxicity

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td></td>
<td>Algae or other aquatic plants</td>
<td>+6.5mg/L</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Algae or other aquatic plants</td>
<td>+6.5mg/L</td>
<td>1</td>
</tr>
<tr>
<td>168</td>
<td></td>
<td>Crustacea</td>
<td>0.74mg/L</td>
<td>5</td>
</tr>
<tr>
<td>384</td>
<td></td>
<td>Crustacea</td>
<td>1.53mg/L</td>
<td>3</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Fish</td>
<td>18mg/L</td>
<td>2</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Crustacea</td>
<td>&gt;32mg/L</td>
<td>1</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Fish</td>
<td>18mg/L</td>
<td>2</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Crustacea</td>
<td>0.0034mg/L</td>
<td>4</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Crustacea</td>
<td>1.184mg/L</td>
<td>4</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Crustacea</td>
<td>&gt;0.49mg/L</td>
<td>1</td>
</tr>
<tr>
<td>168</td>
<td></td>
<td>Crustacea</td>
<td>0.96mg/L</td>
<td>5</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td>Fish</td>
<td>2.6mg/L</td>
<td>2</td>
</tr>
<tr>
<td>48</td>
<td></td>
<td>Crustacea</td>
<td>&gt;3.4mg/L</td>
<td>2</td>
</tr>
<tr>
<td>72</td>
<td></td>
<td>Algae or other aquatic plants</td>
<td>4.6mg/L</td>
<td>2</td>
</tr>
</tbody>
</table>

### Toxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>0.0073mg/L</td>
<td>4</td>
</tr>
<tr>
<td>toluene</td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>3.78mg/L</td>
<td>5</td>
</tr>
<tr>
<td>toluene</td>
<td>EC50</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>12.5mg/L</td>
<td>4</td>
</tr>
<tr>
<td>toluene</td>
<td>BCF</td>
<td>24</td>
<td>Algae or other aquatic plants</td>
<td>10mg/L</td>
<td>4</td>
</tr>
<tr>
<td>toluene</td>
<td>EC50</td>
<td>384</td>
<td>Crustacea</td>
<td>1.53mg/L</td>
<td>3</td>
</tr>
<tr>
<td>toluene</td>
<td>NOEC</td>
<td>168</td>
<td>Crustacea</td>
<td>0.74mg/L</td>
<td>5</td>
</tr>
<tr>
<td>n-butyl acetae</td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>&gt;32mg/L</td>
<td>1</td>
</tr>
<tr>
<td>n-butyl acetae</td>
<td>EC50</td>
<td>96</td>
<td>Fish</td>
<td>18mg/L</td>
<td>2</td>
</tr>
<tr>
<td>n-butyl acetae</td>
<td>EC50</td>
<td>96</td>
<td>Algae or other aquatic plants</td>
<td>1.675mg/L</td>
<td>3</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>0.0043mg/L</td>
<td>4</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>1.184mg/L</td>
<td>4</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>EC50</td>
<td>96</td>
<td>Algae or other aquatic plants</td>
<td>3.6mg/L</td>
<td>2</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>EC50</td>
<td>96</td>
<td>Crustacea</td>
<td>&gt;0.49mg/L</td>
<td>1</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>NOEC</td>
<td>168</td>
<td>Crustacea</td>
<td>0.96mg/L</td>
<td>5</td>
</tr>
<tr>
<td>xylene</td>
<td>LC50</td>
<td>96</td>
<td>Fish</td>
<td>2.6mg/L</td>
<td>2</td>
</tr>
<tr>
<td>xylene</td>
<td>EC50</td>
<td>48</td>
<td>Crustacea</td>
<td>&gt;3.4mg/L</td>
<td>2</td>
</tr>
<tr>
<td>xylene</td>
<td>EC50</td>
<td>72</td>
<td>Algae or other aquatic plants</td>
<td>4.6mg/L</td>
<td>2</td>
</tr>
</tbody>
</table>

### SECTION 12 ECOLOGICAL INFORMATION

#### Toxicity

- **Legend:**
  - ✓ = Data available but does not fill the criteria for classification
  - ✗ = Data required to make classification available
  - ✗ = Data Not Available to make classification

- **Continued...**
**Persistence and degradability**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LOW (Half-life = 28 days)</td>
<td>LOW (Half-life = 4.33 days)</td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>LOW</td>
<td>LOW</td>
</tr>
<tr>
<td>ethyl benzene</td>
<td>HIGH (Half-life = 228 days)</td>
<td>LOW (Half-life = 3.57 days)</td>
</tr>
<tr>
<td>xylene</td>
<td>HIGH (Half-life = 360 days)</td>
<td>LOW (Half-life = 1.83 days)</td>
</tr>
<tr>
<td>n-hexane</td>
<td>LOW</td>
<td>LOW</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LOW (BCF = 90)</td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>LOW (BCF = 14)</td>
</tr>
<tr>
<td>ethyl benzene</td>
<td>LOW (BCF = 79.43)</td>
</tr>
<tr>
<td>xylene</td>
<td>MEDIUM (BCF = 740)</td>
</tr>
<tr>
<td>n-hexane</td>
<td>MEDIUM (LogKOW = 3.9)</td>
</tr>
</tbody>
</table>

**Mobility in soil**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LOW (KOC = 268)</td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>LOW (KOC = 20.86)</td>
</tr>
<tr>
<td>ethyl benzene</td>
<td>LOW (KOC = 517.8)</td>
</tr>
<tr>
<td>n-hexane</td>
<td>LOW (KOC = 149)</td>
</tr>
</tbody>
</table>

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.
- 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.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- ![DO NOT allow wash water from cleaning or process equipment to enter drains.](image)
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- [(Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).](image) Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

<table>
<thead>
<tr>
<th>Marine Pollutant</th>
<th>NO</th>
</tr>
</thead>
</table>
### Land transport (ADG)

<table>
<thead>
<tr>
<th>UN number</th>
<th>1263</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>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)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Class: 3</td>
</tr>
<tr>
<td></td>
<td>Subrisk: Not Applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions: 163 367</td>
</tr>
<tr>
<td></td>
<td>Limited quantity: 5 L</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>UN number</th>
<th>1263</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICAO/IATA Class: 3</td>
</tr>
<tr>
<td></td>
<td>ICAO / IATA Subrisk: Not Applicable</td>
</tr>
<tr>
<td></td>
<td>ERG Code: 3L</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions: A3 A72 A192</td>
</tr>
<tr>
<td></td>
<td>Cargo Only Packing Instructions: 364</td>
</tr>
<tr>
<td></td>
<td>Cargo Only Maximum Qty / Pack: 60 L</td>
</tr>
<tr>
<td></td>
<td>Passenger and Cargo Packing Instructions: 353</td>
</tr>
<tr>
<td></td>
<td>Passenger and Cargo Maximum Qty / Pack: 5 L</td>
</tr>
<tr>
<td></td>
<td>Passenger and Cargo Limited Quantity Packing Instructions: Y341</td>
</tr>
<tr>
<td></td>
<td>Passenger and Cargo Limited Maximum Qty / Pack: 1 L</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>UN number</th>
<th>1263</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMDG Class: 3</td>
</tr>
<tr>
<td></td>
<td>IMDG Subrisk: Not Applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>EMS Number: F-E, S-E</td>
</tr>
<tr>
<td></td>
<td>Special provisions: 163 367</td>
</tr>
<tr>
<td></td>
<td>Limited Quantities: 5 L</td>
</tr>
</tbody>
</table>

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

- **TOLUENE(108-88-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

- **SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC(64742-89-8.) IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
  - International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List

- **N-BUTYL ACETATE(123-86-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS**
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
  - International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List
  - Passenger and Cargo Aircraft

Continued...
ENAMEL THINNER E250

SECTION 16 OTHER INFORMATION

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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