

THINNERS 3310

Polycure - A division of Era Polymers Pty Ltd

Version No: 1.2

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: **27/10/2024**Print Date: **27/10/2024**S.GHS.AUS.EN

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

Product Identifier	
Product name	THINNERS 3310
Synonyms	Not Available
Proper shipping name	PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Other means of identification	1210
Relevant identified uses of the	substance or mixture and uses advised against
Relevant identified uses	A blend of solvents for use in Polycure polyurethane coatings.

Details of the manufacturer or supplier of the safety data sheet

	"
Registered company name	Polycure - A division of Era Polymers Pty Ltd
Address	2-4 Green Street, Banksmeadow, 2019, NSW, Australia
Telephone	+612 9666 3888
Fax	+612 9666 4805
Website	www.polycure.com.au
Email	erapol@erapol.com.au

Emergency telephone number

3. 7	
Association / Organisation	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone number(s)	+61 1800 951 288
Other emergency telephone number(s)	+61 3 9573 3188

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.

Poisons Schedule	S6
Classification ^[1]	Flammable Liquids Category 3, Aspiration Hazard Category 1, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Inhalation) Category 4, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)







Signal word Danger

Hazard statement(s)

nazaru statement(s)	
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.

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H315	Causes skin irritation.	
H319	Causes serious eye irritation.	
H332	Harmful if inhaled.	
H335	May cause respiratory irritation.	
H373	May cause damage to organs through prolonged or repeated exposure.	
H412	Harmful to aquatic life with long lasting effects.	
Precautionary statement(s) Ge	Precautionary statement(s) General	
P101	If medical advice is needed, have product container or label at hand.	
P102	Keep out of reach of children.	

Precautionary statement(s) Prevention

P103 Read carefully and follow all instructions.

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours/spray.
P271	Use only a well-ventilated area.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

	·	
P301+P310	F SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.	
P331	Do NOT induce vomiting.	
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P302+P352	IF ON SKIN: Wash with plenty of water and soap.	
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
P332+P313	If skin irritation occurs: Get medical advice/attention.	
P362+P364	Take off contaminated clothing and wash it before reuse.	

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1330-20-7	30-60	xylene
123-42-2	10-30	diacetone alcohol
123-86-4	10-30	n-butyl acetate
Not Available	to 100	All other substances - non-hazardous
Legend:	1. Classified by Chemwatch; 2. Clas Classification drawn from C&L * EU	sification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. I IOELVs available

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
- upper and lower lids.

 Seek medical attention without delay; if pain persists or recurs seek medical attention.

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Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. If skin or hair contact occurs: Quickly but gently, wipe material off skin with a dry, clean cloth. Skin Contact Immediately remove all contaminated clothing, including footwear, Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. Transport to hospital, or doctor. • 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. Inhalation 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, without delay. ▶ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY, For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS. Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless Ingestion instructed otherwise: ▶ INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (headdown position, if possible) to maintain open airway and prevent aspiration. NOTE: Wear a protective glove when inducing vomiting by mechanical means. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus Avoid giving milk or oils Avoid giving alcohol.

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. for simple esters:

BASIC TREATMENT

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

ADVANCED TREATMENT

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

EMERGENCY DEPARTMENT

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

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

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 (pO2 < 50 mm Hg or pCO2 > 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 cardios 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):

Methylhippu-ric acids in urine 1.5 gm/gm creatinine 2 mg/min

Sampling Time End of shift Last 4 hrs of shift

Comments

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SECTION 5 Firefighting measures

Extinguishing media

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

Special hazards arising from the substrate or mixture

Fire Incompatibility

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

Advice for firefighters	
Fire Fighting	 Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. If safe, switch off electrical equipment until vapour fire hazard removed. 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.
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: carbon monoxide (CO) carbon dioxide (CO2) other pyrolysis products typical of burning organic material.
HAZCHEM	•3Y

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 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. 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.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

- ► Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- Electrostatic discharge may be generated during pumping this may result in fire.
- · Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Version No: 1.2 Page 5 of 15 Issue Date: 27/10/2024 Print Date: 27/10/2024 **THINNERS 3310** · 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. · Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes.
 Wait 30 minutes after tank filling (for large storage tanks) · before opening hatches or manholes. Even with proper · grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to - accumulate, electrostatic discharge and ignition of flammable · air-vapour mixtures can occur. Be aware of handling · operations that may give rise to additional hazards that result · from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, · filtering, splash filling, cleaning and filling of tanks and $\boldsymbol{\cdot}$ containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may · lead to static discharge e.g. spark formation. Restrict line · velocity during pumping in order to avoid generation of electrostatic discharge (= 1 m/s until fill pipe submerged to · twice its diameter, then = 7 m/s). Avoid splash filling. \cdot Do NOT use compressed air for filling, discharging, or handling operations 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 storage and handling recommendations contained within this SDS. 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 Store in original containers in approved flammable liquid storage area. Store away from incompatible materials in a cool, dry, well-ventilated area. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. No smoking, naked lights, heat or ignition sources. Storage areas should be clearly identified, well illuminated, clear of obstruction and accessible only to trained and authorised personnel adequate security must be provided so that unauthorised personnel do not have access. Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets,

allowable quantities and minimum storage distances. Use non-sparking ventilation systems, approved explosion proof equipment and intrinsically safe electrical systems.

flammable gas detectors.

- Have appropriate extinguishing capability in storage area (e.g. portable fire extinguishers dry chemical, foam or carbon dioxide) and
- Keep adsorbents for leaks and spills readily available.
- Protect containers against physical damage and check regularly for leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

In addition, for tank storages (where appropriate):

- Store in grounded, properly designed and approved vessels and away from incompatible materials.
- For bulk storages, consider use of floating roof or nitrogen blanketed vessels; where venting to atmosphere is possible, equip storage tank vents with flame arrestors; inspect tank vents during winter conditions for vapour/ ice build-up.
- ▶ Storage tanks should be above ground and diked to hold entire contents

Conditions for safe storage, including any incompatibilities

Other information

- 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

Suitable container

- reacts with water on standing to form acetic acid and n-butyl alcohol
- reacts violently with strong oxidisers and potassium tert-butoxide
- is incompatible with caustics, strong acids and nitrates
- dissolves rubber, many plastics, resins and some coatings

Diacetone alcohol: (DAA)

- ▶ reacts violently with strong oxidisers
- decomposes on contact with strong acids or strong bases forming acetone and mesityl oxide
- reacts with alkali metals forming explosive hydrogen
 is incompatible with aliphatic amines, isocyanates acetaldehyde, alkanolamines, ammonia, benzoyl peroxide, chromic acid, chromium trioxide, dialkylzincs, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus pentasulfide, pyridine tangerine oil, triethylammonium, triisobutylaluminium
- attacks some forms of plastics, resins, and rubber

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NOTE: the commercial grade contains acetone

Storage containers made from brass, bronze or lead may cause contamination Xylenes:

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

Oxidation of Alkylaromatics: T.S.S Rao and Shubhra Awasthi: E-Journal of Chemistry Vol 4, No. 1, pp 1-13 January 2007

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

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	xylene	Xylene (o-, m-, p- isomers)	80 ppm / 350 mg/m3	655 mg/m3 / 150 ppm	Not Available	Not Available
Australia Exposure Standards	diacetone alcohol	Diacetone alcohol	50 ppm / 238 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	n-butyl acetate	n-Butyl acetate	150 ppm / 713 mg/m3	950 mg/m3 / 200 ppm	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
xylene	900 ppm	Not Available
diacetone alcohol	Not Available	Not Available
n-butyl acetate	1,700 ppm	Not Available

Exposure controls

Appropriate engineering controls

CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear

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.

Type of Contaminant:	Air Speed:	
solvent, vapours, degreasing etc., evaporating from tank (in still air).	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, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use

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4: Large hood or large air mass in motion

4: 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.

- · Adequate ventilation is typically taken to be that which limits the average concentration to no more than 25% of the LEL within the building, room or enclosure containing the dangerous substance.
- · Ventilation for plant and machinery is normally considered adequate if it limits the average concentration of any dangerous substance that might potentially be present to no more than 25% of the LEL. However, an increase up to a maximum 50% LEL can be acceptable where additional safeguards are provided to prevent the formation of a hazardous explosive atmosphere. For example, gas detectors linked to emergency shutdown of the process might be used together with maintaining or increasing the exhaust ventilation on solvent evaporating ovens and gas turbine enclosures.

· Temporary exhaust ventilation systems may be provided for non-routine higher-risk activities, such as cleaning, repair or maintenance in tanks or other confined spaces or in an emergency after a release. The work procedures for such activities should be carefully considered.. The atmosphere should be continuously monitored to ensure that ventilation is adequate and the area remains safe. Where workers will enter the space, the ventilation should ensure that the concentration of the dangerous substance does not exceed 10% of the LEL (irrespective of the provision of suitable breathing apparatus)

Individual protection measures, such as personal protective equipment









Eye and face protection

Safety glasses with side shields

- Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- 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 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 591.

Skin protection

Hands/feet protection

See Hand protection below

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

For esters:

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

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and 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. As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- · Good when breakthrough time > 20 min
- · Fair when breakthrough time < 20 min
- · Poor when glove material degrades

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).

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Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.

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:

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Material	СРІ
PVA	В
BUTYL	С
BUTYL/NEOPRENE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE	С
PE/EVAL/PE	С
PVC	С
PVDC/PE/PVDC	С
TEFLON	С
VITON	С
VITON/BUTYL	С

^{*} 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. -

Ansell Glove Selection

Blove — In order of recommendation
lphaTec 02-100
lphaTec® 15-554
lphaTec® 58-530B
lphaTec® 58-530W
lphaTec® Solvex® 37-675
lphaTec® Solvex® 37-185
lphaTec® 58-008
lphaTec® 79-700
lphaTec® 58-735
lphaTec® 38-612

The suggested gloves for use should be confirmed with the glove supplier.

Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the 'Exposure Standard' (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

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

^ - 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.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties **Appearance** Clear liquid Relative density (Water = 1) 0.88 Physical state Liquid Partition coefficient n-octanol Odour Not Available Not Available / water Auto-ignition temperature Odour threshold Not Available Not Available (°C) Decomposition pH (as supplied) Not Available Not Available temperature (°C)

^{*} 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.

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Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	124-128	Molecular weight (g/mol)	Not Available
Flash point (°C)	>23	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Flammable.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available

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

SECTION 11 Toxicological information

Information on toxicological effects

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

There is strong evidence to suggest that this material can cause, if inhaled once, serious, irreversible damage of organs.

The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes

Diacetone alcohol is primarily a sedative, used to stop convulsions. When inhaled, it may cause sleep after a period of restlessness, excitability, and irritation. Symptoms of intoxication are rapidly decreasing breathing, marked fall in blood pressure, muscle relaxation and

absence of conjunctival reflexes. The material has NOT been classified by EC Directives or other classification systems as 'harmful by inhalation'. This is because of the lack

of corroborating animal or human evidence. Inhaled Inhalation hazard is increased at higher temperatures.

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.

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.

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.

Xvlene is a central nervous system depressant

following a single exposure by swallowing.

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

At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver). At sufficiently high doses the material may be nephrotoxic (i.e. poisonous to the kidney).

Diacetone alcohol produces marked respiratory depression and unconsciousness. It may cause destruction of the red cells, liver and kidney

damage and anaemia.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)

Strong evidence exists that exposure to the material may cause irreversible damage (other than cancer, mutations and birth defects)

The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack

of corroborating animal or human evidence. Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal

discomfort and be harmful or toxic if swallowed.

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

Skin Contact

Ingestion

There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.

The material may accentuate any pre-existing dermatitis condition

Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage

following entry through wounds, lesions or abrasions.

Open cuts, abraded or irritated skin should not be exposed to this material

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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. Skin contact with the material may be harmful; systemic effects may result following absorption. The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. 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. Eve There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Chronic 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. Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS] Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. TOXICITY IRRITATION THINNERS 3310 Not Available Not Available TOXICITY IRRITATION Eye (Human): 200ppm Dermal (rabbit) LD50: >1700 mg/kg^[2] Eye (Rodent - rabbit): 5mg/24H - Severe Inhalation (Rat) LC50: 5000 ppm4h^[2] Eye (Rodent - rabbit): 87mg - Mild Oral (Mouse) LD50; 2119 mg/kg^[2] xylene Eye: adverse effect observed (irritating)^[1] Skin (Rodent - rabbit): 100% - Moderate Skin (Rodent - rabbit): 500mg/24H - Moderate Skin (Rodent - rat): 60uL/8H - Mild Skin: adverse effect observed (irritating)^[1] TOXICITY IRRITATION Eye (Human): 100ppm/15M Dermal (rabbit) LD50: 13500 mg/kg^[2] Eye (Rodent - rabbit): 100uL/24H - Severe Oral (Rat) LD50: 2520 mg/kg^[2] Eye (Rodent - rabbit): 20mg - Severe diacetone alcohol Eye: adverse effect observed (irritating)^[1] Skin (Rodent - rabbit): 10mg/24H Skin (Rodent - rabbit): 500mg - Mild Skin: adverse effect observed (irritating)^[1] Skin: no adverse effect observed (not irritating)^[1] TOXICITY IRRITATION Eye (Human): 300ppm Dermal (rabbit) LD50: 3200 mg/kg^[2] Eye (Rodent - rabbit): 100mg - Moderate Inhalation (Rat) LC50: 0.74 mg/l4h^[2] n-butyl acetate Oral (Rabbit) LD50; 3200 mg/kg^[2] Eye: no adverse effect observed (not irritating)^[1] Skin (Rodent - rabbit): 500mg/24H - Moderate Skin: no adverse effect observed (not irritating)^[1] 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 Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS THINNERS 3310 include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. Reproductive effector in rats The substance is classified by IARC as Group 3: **XYLENE** NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. DIACETONE ALCOHOL Inhalation (human) TCLo: 400 ppm resp.effect No significant acute toxicological data identified in literature search. Diacetone alcohol (DAA) is irritating to the skin and eyes, but the oral lethal dose is more than 4000mg/kg. Animal testing showed some

effects to the kidney and liver. It has not been shown to cause reproductive or developmental toxicity or genetic damage, but it may reduce

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	fertility.		
THINNERS 3310 & N-BUTYL ACETATE	and most tissues throughout the body. Following hy Oral acute toxicity studies have been reported for 5 carboxylic acids. The very low oral acute toxicity of Genotoxicity studies have been performed in vitro o saturated carboxylic acids: methyl acetate, butyl ac these substances are not genotoxic. The JEFCA Committee concluded that the substan esters of aliphatic acyclic primary alcohols and alipla average maximum levels of 200 mg/kg. Higher leve	Adrolysis the component alcohols and of the 67 esters of aliphatic acyclic this group of esters is demonstrated using the following esters of aliphatic retate, butyl stearate and the structurates in this group would not present subtitional times asturated carboxylic acids elso of use (up to 3000 mg/kg) are permeted flavouring substances are generally groods pint FAO/WHO Expert Committee o	primary alcohols and aliphatic linear saturated by oral LD50 values greater than 1850 mg/kg bw acyclic primary alcohols and aliphatic linear ally related isoamyl formate and demonstrates that afety concerns at the current levels of intake the are generally used as flavouring substances up to nitted in food categories such as chewing gum and y 1 to 30 mg/kg foods and in special food categories in Food Additives (JECFA)
XYLENE & DIACETONE ALCOHOL & N-BUTYL ACETATE	The material may produce severe irritation to the exproduce conjunctivitis. The material may cause skin irritation after prolong production of vesicles, scaling and thickening of the	ed or repeated exposure and may pro	, , ,
Acute Toxicity	✓	Carcinogenicity	×
Skin Irritation/Corrosion	✓	Reproductivity	×
Serious Eye Damage/Irritation	~	STOT - Single Exposure	~
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	•
Mutagenicity	×	Aspiration Hazard	✓

Legend:

X − Data either not available or does not fill the criteria for classification
 ✓ − Data available to make classification

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- Data available to make classification

SECTION 12 Ecological information

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OX				

THINNERS 3310	Endpoint	Test Duration (hr)	Species	Value	Sour	ce
I HINNERS 3310	Not Available	Not Available	Not Available	Not Available	Not A	vailable
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other aquatic p	lants	4.6mg/l	2
xylene	EC50	48h	Crustacea		1.8mg/l	2
	LC50	96h	Fish		2.6mg/l	2
	NOEC(ECx)	73h	Algae or other aquatic p	lants	0.44mg/l	2
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other aquatic pla	ants	>1000mg/l	2
diacetone alcohol	EC50	48h	Crustacea >1		>1000mg/l	2
	NOEC(ECx)	504h	Crustacea 10		100mg/l	2
	LC50	96h	Fish >		>100mg/l	2
		<u>'</u>	<u>'</u>			
	Endpoint	Test Duration (hr)	Species		Value	Source
	EC50	72h	Algae or other aquatic plar	nts	246mg/l	2
n-butyl acetate	EC50	48h	Crustacea		32mg/l	1
	EC50(ECx)	96h	Fish		18mg/l	2
	LC50	96h	Fish		17-19mg/L	4
			<u> </u>			

 $\label{total conditions} To xic to a quatic organisms, may cause long-term adverse effects in the aquatic environment.$

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive. Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus. The order of most toxic to least in a study using grass shrimp and brown shrimp was dimethylnaphthalenes > methylnaphthalenes > naphthalenes > naphthale to bluegill sunfish. Biological resources in strong sunlight are at more risk than those that are not. PAHs in general are more frequently associated with chronic risks. For Diacetone Alcohol: log Kow: -0.14 @ 25 C; BOD 5: 0.07,3%; COD: 2.11,95%; ThOD: 2.21.

Environmental Fate: If diacetone alcohol is released into air and soil, it is unlikely to be distributed in other compartments. Diacetone alcohol is readily biodegradable.

Atmospheric Fate: Direct photodegradation is not expected.

Aquatic Fate: If diacetone alcohol is released into water, it is unlikely to be distributed into other compartments.

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Ecotoxicity: Diacetone alcohol has a low bioaccumulative potential and is not acutely toxic to fish species including bluegill sunfish or Daphnia magna water fleas. Toxicity of these chemicals to aquatic organisms is low. Diacetone is used in conjunction with other substances in some insecticides.

log Koc: 2.05-3.08; Koc: 25.4-204; Half-life (hr) air: 0.24-42; Half-life (hr) H2O surface water: 24-672; Half-life (hr) H2O ground: 336-8640; Half-life (hr) soil: 52-672; Henry's Pa m3 /mol: 637-879; Henry's atm m3 /mol - 7.68E-03; BOD 5 if unstated - 1.4,1%; COD - 2.56,13% ThOD - 3.125: BCF: 23; log BCF: 1.17-2.41.

Environmental Fate: Most xylenes released to the environment will occur in the atmosphere and volatilisation is the dominant environmental fate process. Soil - Xylenes are expected to have moderate mobility in soil evaporating rapidly from soil surfaces. The extent of the degradation is expected to depend on its concentration, residence time in the soil, the nature of the soil, and whether resident microbial populations have been acclimated. Xylene can remain below the soil surface for several days and may travel through the soil profile and enter groundwater. Soil and water microbes may transform it into other, less harmful compounds, although this happens slowly. It is not clear how long xylene remains trapped deep underground in soil or groundwater, but it may be months or years.

Atmospheric Fate: Xylene evaporates quickly into the air from surface soil and water and can remain in the air for several days until it is broken down by sunlight into other less harmful chemicals. In the ambient atmosphere, xylenes are expected to exist solely in the vapour phase. Xylenes are degraded in the atmosphere with an estimated atmospheric lifetime of about 0.5 to 2 days. Xylene may contribute to photochemical smog formation. p-Xylene has a moderately high photochemical reactivity under smog conditions, higher than the other xylene isomers. The photooxidation of p-xylene results in the production of carbon monoxide, formaldehyde, glyoxal, methylglyoxal, 3-methylbenzylnitrate, m-tolualdehyde, 4-nitro-3-xylene, 5-nitro-3-xylene, 2,6-dimethyl-p-benzoquinone, 2,4-dimethylphenol, 6-nitro-2,4-dimethylphenol, 2,6-dimethylphenol, and 4-nitro-2,6-dimethylphenol.

Aquatic Fate: p-xylene may adsorb to suspended solids and sediment in water and is expected to volatilise from water surfaces. Estimated volatilisation half-lives for a model river and model lake are 3 hours and 4 days, respectively. Measurements taken from goldfish, eels and clams indicate that bioconcentration in aquatic organisms is low. Photooxidation in the presence of humic acids may play an important role in the abiotic degradation of p-xylene. p-Xylene is biodegradable and has been observed to degrade in pond water however; it is unclear if it degrades in surface waters. p-Xylene has been observed to degrade in anaerobic and aerobic groundwater; however, it is known to persist for many years in groundwater, at least at sites where the concentration might have been quite high. Ecotoxicity: Xylenes are slightly toxic to fathead minnow, rainbow trout and bluegill and not acutely toxic to water fleas. For Photobacterium phosphoreum EC50 (24 h): 0.0084 mg/L. and Gammarus lacustris LC50 (48 h): 0.6 mg/L.

For n-Butyl Acetate: Koc: ~200; log Kow: 1.78; Half-life (hr) air: 144;

Half-life (hr) H2O surface water: 178 - 27156;

Henry's atm: m3 /mol: 3.20E-04 BOD 5 if unstated: 0.15-1.02.7%;

COD: 78%; ThOD: 2.207; BCF : 4-14.

Environmental Fate: Terrestrial Fate - Butyl acetate is expected to have moderate mobility in soil. Volatilization of n-butyl acetate is expected from moist and dry soil surfaces. n-Butyl acetate may biodegrade in soil. Aquatic Fate: n-Butyl acetate is not expected to adsorb to suspended solids and sediment in water. Butyl acetate is expected to volatilize from water surfaces. Estimated half-lives for a model river and model lake are 7 and 127 hours respectively. Hydrolysis may be an important environmental fate for this compound. Atmospheric Fate: n-Butyl acetate is expected to exist solely as a vapour in the ambient atmosphere. Vapour-phase n-butyl acetate is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be about 4 days.

Ecotoxicity: It is expected that bioconcentration in aquatic organisms is low. n-Butyl acetate is not acutely toxic to fish specifically, island silverside, bluegill sunfish, fathead minnow, and water fleas and has low toxicity to algae.

DO NOT discharge into sewer or waterways

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)	
diacetone alcohol	HIGH	HIGH	
n-butyl acetate	LOW	LOW	

Bioaccumulative potential

Ingredient	Bioaccumulation		
xylene	MEDIUM (BCF = 740)		
diacetone alcohol	LOW (LogKOW = -0.3376)		
n-butyl acetate	LOW (BCF = 14)		

Mobility in soil

Ingredient	Mobility
diacetone alcohol	HIGH (Log KOC = 1)
n-butyl acetate	LOW (Log KOC = 20.86)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- ► Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise

- 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.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- ► Reduction
- Reuse
- ▶ Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- 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.

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- 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 licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 Transport information

Labels Required



Marine Pollutant	N
HAZCHEM	•3

Land transport (ADG)

14.1. UN number or ID number	1263		
14.2. UN proper shipping name	PAINT RELATED MATERIAL (including paint thinning or reducing compound)		
14.3. Transport hazard class(es)	Class Subsidiary Hazard	3 Not Applicable	
14.4. Packing group	III		
14.5. Environmental hazard	Not Applicable		
14.6. Special precautions for user	Special provisions Limited quantity	163 223 367 5 L	

Air transport (ICAO-IATA / DGR)

4.1. UN number	1263		
4.2. UN proper shipping name	Paint related material (including paint thinning or reducing compounds)		
	ICAO/IATA Class	3	
4.3. Transport hazard class(es)	ICAO / IATA Subsidiary Hazard	Not Applicable	
0.000(00)	ERG Code	3L	
4.4. Packing group	III		
14.5. Environmental hazard	Not Applicable		
	Special provisions		A3 A72 A192
	Cargo Only Packing Instructions		366
	Cargo Only Maximum Qty / Pack		220 L
14.6. Special precautions for user	Passenger and Cargo Packing In	structions	355
usei	Passenger and Cargo Maximum Qty / Pack		60 L
	Passenger and Cargo Limited Quantity Packing Instructions		Y344
	Passenger and Cargo Limited Maximum Qty / Pack		10 L

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1263		
14.2. UN proper shipping name	PAINT RELATED MATERIAL (including paint thinning or reducing compound)		
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Ha	zard Not Applicable	
14.4. Packing group	III		
14.5 Environmental hazard	Not Applicable		
14.6. Special precautions for user	EMS Number Special provisions Limited Quantities	F-E , S-E 163 223 367 955 5 L	

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

Not Applicable

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Product name	Group
xylene	Not Available
diacetone alcohol	Not Available
n-butyl acetate	Not Available
All other substances - non- hazardous	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
xylene	Not Available
diacetone alcohol	Not Available
n-butyl acetate	Not Available
All other substances - non- hazardous	Not Available

SECTION 15 Regulatory information

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

xylene is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule ${\bf 5}$

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

diacetone alcohol is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

n-butyl acetate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

Additional Regulatory Information

Not Applicable

National Inventory Status

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National Inventory	Status
Australia - AIIC / Australia Non- Industrial Use	Yes
Canada - DSL	Yes
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	27/10/2024
Initial Date	27/10/2024

SDS Version Summary

Version	Date of Update	Sections Updated
0.2	27/10/2024	Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), Hazards identification - Classification, Composition / information on ingredients - Ingredients

Other information

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

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

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considered.

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
 ES: Exposure Standard
- 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
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European Inventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances