

Era Polymers Pty Ltd

Chemwatch: **9-72870**
Version No: **1.2**
Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 3

Issue Date: **08/08/2014**
Print Date: **08/08/2014**
Initial Date: **07/08/2014**
S.GHS.NZL.EN

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

Product Identifier

| | |
|--------------------------------------|----------------|
| Product name | TUNGSEAL |
| Chemical Name | Not Applicable |
| Synonyms | Not Available |
| Proper shipping name | PAINT |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |
| CAS number | Not Applicable |

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

| | |
|---------------------------------|--|
| Relevant identified uses | Sealer and finish for timber, parquetry, or cork flooring. |
|---------------------------------|--|

Details of the manufacturer/importer

| | |
|--------------------------------|---|
| Registered company name | Urethane Coatings, a division of Era Polymers Pty Ltd |
| Address | 2-4 Green Street 2019 NSW Australia |
| Telephone | +61 (0)2 9666 3888 |
| Fax | +61 (0)2 9666 4805 |
| Website | http://www.urethanecoatings.com.au |
| Email | mark@urethanecoatings.com.au |

Emergency telephone number

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

CHEMWATCH EMERGENCY RESPONSE

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

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


SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

| | |
|--|---|
| GHS Classification [1] | Flammable Liquid Category 3, Skin Corrosion/Irritation Category 3, Eye Irritation Category 2A, Reproductive Toxicity Category 1, STOT - RE Category 1, Aspiration Hazard Category 1 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |
| Determined by Chemwatch using GHS/HSNO criteria | 3.1C, 6.1E (aspiration), 6.3B, 6.4A, 6.8A, 6.9A |

Label elements

| | |
|--------------------|---|
| GHS label elements |  |
|--------------------|---|

| | |
|-------------|---------------|
| SIGNAL WORD | DANGER |
|-------------|---------------|

Hazard statement(s)

| | |
|------|--|
| H226 | Flammable liquid and vapour |
| H316 | Causes mild skin irritation |
| H319 | Causes serious eye irritation |
| H360 | May damage fertility or the unborn child |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H304 | May be fatal if swallowed and enters airways |

Precautionary statement(s): Prevention

| | |
|------|--|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Precautionary statement(s): Response

| | |
|----------------|--|
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider |
| P308+P313 | IF exposed or concerned: Get medical advice/attention. |
| P331 | Do NOT induce vomiting. |
| P370+P378 | In case of fire: Use... 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. |

Precautionary statement(s): Storage

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

Precautionary statement(s): Disposal

| | |
|------|--|
| P501 | Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration |
|------|--|

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|---|
| 64742-88-7 | 30-60 | solvent naphtha petroleum, medium aliphatic |
| Not Available | 40-60 | All other substances - non-hazardous |
| 1330-20-7 | <10 | xylene |
| 872-50-4 | <1 | N-METHYL-2-PYRROLIDONE |

SECTION 4 FIRST AID MEASURES

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

Description of first aid measures

| | |
|-------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with 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. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
|-------------|--|

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| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly 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. |
| Inhalation | <ul style="list-style-type: none"> ▶ 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, without delay. |
| Ingestion | <ul style="list-style-type: none"> ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. |

Indication of any immediate medical attention and special treatment needed

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

Treat symptomatically.

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 cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.

BIOLOGICAL EXPOSURE INDEX - BEI

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

| Determinant | Index | Sampling Time | Comments |
|--------------------------------|----------------------------------|-------------------------------------|----------|
| Methylhippu-ric acids in urine | 1.5 gm/gm creatinine 2 mg/min | End of shift Last 4 hrs of shift | |

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

| | |
|--|---|
| | <ul style="list-style-type: none"> ▶ 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

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| Fire Incompatibility | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
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Advice for firefighters

| | |
|------------------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ May be violently or explosively reactive. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Consider evacuation (or protect in place). |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Liquid and vapour are highly flammable. ▶ Severe fire hazard when exposed to heat, flame and/or oxidisers. ▶ Vapour forms an explosive mixture with air. ▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark. ▶ Vapour may travel a considerable distance to source of ignition. |

SECTION 6 ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

| | |
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| Minor Spills | <ul style="list-style-type: none"> ▶ 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. |
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| | |
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| Major Spills | <ul style="list-style-type: none"> ▶ 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 full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. |
|---------------------|---|

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ 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). |
| Other information | <ul style="list-style-type: none"> ▶ 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. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ 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. |
| Storage incompatibility | <p>Xylenes:</p> <ul style="list-style-type: none"> ▶ 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. |

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|--|------------------------|----------------------------|--------------------------------|--------------------------------|---------------|-----------------|
| New Zealand Workplace Exposure Standards (WES) | xylene | Xylene (o-, m-, p-isomers) | 217 mg/m ³ / 50 ppm | Not Available | Not Available | Not Available |
| New Zealand Workplace Exposure Standards (WES) | N-METHYL-2-PYRROLIDONE | 1-Methyl-2-pyrrolidone | 103 mg/m ³ / 25 ppm | 309 mg/m ³ / 75 ppm | Not Available | Skin absorption |

EMERGENCY LIMITS

| Ingredient | TEEL-0 | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---------|---------|---------|----------|
| solvent naphtha petroleum, medium aliphatic | 10 ppm | 30 ppm | 50 ppm | 500 ppm |
| xylene | 100 ppm | 130 ppm | 920 ppm | 2500 ppm |
| N-METHYL-2-PYRROLIDONE | 10 ppm | 10 ppm | 25 ppm | 25 ppm |


| Ingredient | Original IDLH | Revised IDLH |
|---|---------------|---------------|
| solvent naphtha petroleum, medium aliphatic | Not Available | Not Available |
| All other substances - non-hazardous | Not Available | Not Available |
| xylene | 1,000 ppm | 900 ppm |
| N-METHYL-2-PYRROLIDONE | Not Available | Not Available |

Exposure controls

| | |
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| 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 |
|---|--|

Continued...

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| | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly.</p> |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure. ▶ Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. ▶ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection. ▶ Alternatively a gas mask may replace splash goggles and face shields. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Elbow length PVC gloves <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> ▶ frequency and duration of contact, ▶ chemical resistance of glove material, ▶ glove thickness and ▶ dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. ▶ Eyewash unit. ▶ Ensure there is ready access to a safety shower. |
| Thermal hazards | Not Available |

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:
TUNGSEAL

| Material | CPI |
|----------------|-----|
| PE/EVAL/PE | A |
| PVA | B |
| BUTYL | C |
| NATURAL RUBBER | C |
| TEFLON | C |
| VITON | C |

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

Respiratory protection

Type AK-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 | AK-AUS / Class 1 P2 | - | AK-PAPR-AUS / Class 1 P2 |
| up to 25 x ES | Air-line* | AK-2 P2 | AK-PAPR-2 P2 |
| up to 50 x ES | - | AK-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)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|-----------------------|----------------------|--|---------------|
| Appearance | Clear, yellow liquid | | |
| Physical state | Liquid | Relative density (Water = 1) | 0.89 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |

Continued...

| | | | |
|---|---------------|---|---------------|
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Available | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | 37 | 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) | 40 |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water (g/L) | Immiscible | pH as a solution(1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ 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

| | |
|---------------------|--|
| Inhaled | <p>Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by inhalation.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severe damage to the health of the individual. Relatively small amounts absorbed through the lungs may prove fatal.</p> |
| Ingestion | <p>Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by swallowing.</p> <p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>Ingestion of petroleum hydrocarbons may produce irritation of the pharynx, oesophagus, stomach and small intestine with oedema and mucosal ulceration resulting; symptoms include a burning sensation in the mouth and throat. Large amounts may produce narcosis with nausea and vomiting, weakness or dizziness, slow and shallow respiration, swelling of the abdomen, unconsciousness and convulsions.</p> |
| Skin Contact | <p>Strong evidence exists that exposure to the material may produce very serious irreversible damage (other than carcinogenesis, mutagenesis and teratogenesis) following a single exposure by skin contact.</p> <p>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.</p> |
| Eye | <p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.</p> <p>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.</p> <p>Petroleum hydrocarbons may produce pain after direct contact with the eyes. Slight, but transient disturbances of the corneal epithelium may also result. The aromatic fraction may produce irritation and lachrymation.</p> |
| Chronic | <p>There is sufficient evidence to provide a strong presumption that human exposure to the material may result in developmental toxicity, generally on the basis of:</p> <ul style="list-style-type: none"> - clear results in appropriate animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects. <p>Exposure to the material may cause concerns for human fertility, generally on the basis that results in animal studies provide sufficient evidence to cause a strong suspicion of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects, but which are not a secondary non-specific consequence of other toxic effects.</p> |

On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Repeated or prolonged exposure to mixed hydrocarbons may produce narcosis with dizziness, weakness, irritability, concentration and/or memory loss, tremor in the fingers and tongue, vertigo, olfactory disorders, constriction of visual field, paraesthesias of the extremities, weight loss and anaemia and degenerative changes in the liver and kidney.

| TUNGSEAL | TOXICITY | IRRITATION |
|----------|---------------|---------------|
| | Not Available | Not Available |

| solvent naphtha petroleum, medium aliphatic | TOXICITY | IRRITATION |
|---|----------------------------------|---------------|
| | Dermal (rat) LD50: 28000 mg/kg * | * Xergon |
| | Oral (rat) LD50: 28000 mg/kg * | |
| | Not Available | Not Available |

| xylene | TOXICITY | IRRITATION |
|--------|--|------------------------------------|
| | Inhalation (rat) LC50: 5000 ppm/4h | Eye (human): 200 ppm irritant |
| | Intraperitoneal (Mouse) LD50: 1548 mg/kg | Eye (rabbit): 5 mg/24h SEVERE |
| | Intraperitoneal (Rat) LD50: 2459 mg/kg | Eye (rabbit): 87 mg mild |
| | Oral (Mouse) LD50: 2119 mg/kg | Skin (rabbit): 500 mg/24h moderate |
| | Oral (rat) LD50: 4300 mg/kg | |
| | Subcutaneous (Rat) LD50: 1700 mg/kg | |
| | Not Available | Not Available |

| N-METHYL-2-PYRROLIDONE | TOXICITY | IRRITATION |
|------------------------|----------------------------------|---------------------------------|
| | Dermal (rabbit) LD50: 8000 mg/kg | *[Manufacturer] |
| | Oral (rat) LD50: 3914 mg/kg | Eye (rabbit): 100 mg - moderate |
| | Oral (rat) LD50: 4200 mg/kg* | |
| Not Available | Not Available | |

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| <p>No significant acute toxicological data identified in literature search. Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with dietary lipids.</p> |

| SOLVENT NAPHTHA PETROLEUM, MEDIUM ALIPHATIC |
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| <p>for petroleum: This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents 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. for full range naphthas</p> |

| XYLENE |
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| <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Reproductive effector in rats</p> |

| N-METHYL-2-PYRROLIDONE |
|--|
| <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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.</p> |

TUNGSEAL

| | | | |
|-----------------------------------|---|--------------------------|---|
| 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: ✔ – Data required to make classification available
 ✘ – Data available but does not fill the criteria for classification
 ☹ – Data Not Available to make classification

CMR STATUS

| | | | |
|------|------------------------|---|-----------------|
| SKIN | N-METHYL-2-PYRROLIDONE | New Zealand Workplace Exposure Standards (WES) - Skin | Skin absorption |
|------|------------------------|---|-----------------|

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. Oils of any kind can cause:

- ▶ drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility
- ▶ lethal effects on fish by coating gill surfaces, preventing respiration
- ▶ asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and
- ▶ adverse aesthetic effects of fouled shoreline and beaches

For xylenes :

log Koc : 2.05-3.08

Koc : 25.4-204

Half-life (hr) air : 0.24-42

Half-life (hr) H₂O surface water : 24-672

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

Terrestrial fate: Measured Koc values of 166 and 182, indicate that 3-xylene is expected to have moderate mobility in soil. Volatilisation of p-xylene is expected to be important from moist soil surfaces given a measured Henry's Law constant of 7.18x10⁻³ atm-cu m/mole. The potential for volatilisation of 3-xylene from dry soil surfaces may exist based on a measured vapor pressure of 8.29 mm Hg. p-Xylene may be degraded during its passage through soil).

Persistence and degradability

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

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---------------|-----------------|
| Not Available | Not Available |

Mobility in soil

| Ingredient | Mobility |
|---------------|---------------|
| Not Available | Not Available |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. Otherwise: <ul style="list-style-type: none"> ▶ 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 MSDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. |
|------------------------------|--|

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

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|-------------------------|---|
| |  |
| Marine Pollutant | NO |
| HAZCHEM | •3Y |

Land transport (UN)

| | | | | | |
|-------------------------------------|--|--------------------|-------------|------------------|----------------|
| UN number | 1263 | | | | |
| Packing group | III | | | | |
| UN proper shipping name | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound) | | | | |
| Environmental hazard | No relevant data | | | | |
| Transport hazard class(es) | <table border="1"> <tr> <td>Class</td> <td>3</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table> | Class | 3 | Subrisk | Not Applicable |
| Class | 3 | | | | |
| Subrisk | Not Applicable | | | | |
| Special precautions for user | <table border="1"> <tr> <td>Special provisions</td> <td>163;223;367</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table> | Special provisions | 163;223;367 | Limited quantity | 5 L |
| Special provisions | 163;223;367 | | | | |
| Limited quantity | 5 L | | | | |

Air transport (ICAO-IATA / DGR)

| | | | | | | | | | | | | | | | |
|---|---|--------------------|-------|---------------------------------|----------------|-------------------------------|-------|--|-----|--|------|---|------|--|------|
| UN number | 1263 | | | | | | | | | | | | | | |
| Packing group | III | | | | | | | | | | | | | | |
| UN proper shipping name | Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base); Paint related material (including paint thinning or reducing compounds) | | | | | | | | | | | | | | |
| Environmental hazard | No relevant data | | | | | | | | | | | | | | |
| Transport hazard class(es) | <table border="1"> <tr> <td>ICAO/IATA Class</td> <td>3</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>3L</td> </tr> </table> | ICAO/IATA Class | 3 | ICAO / IATA Subrisk | Not Applicable | ERG Code | 3L | | | | | | | | |
| ICAO/IATA Class | 3 | | | | | | | | | | | | | | |
| ICAO / IATA Subrisk | Not Applicable | | | | | | | | | | | | | | |
| ERG Code | 3L | | | | | | | | | | | | | | |
| Special precautions for user | <table border="1"> <tr> <td>Special provisions</td> <td>A3A72</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>366</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>220 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>355</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>60 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y344</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>10 L</td> </tr> </table> | Special provisions | A3A72 | Cargo Only Packing Instructions | 366 | Cargo Only Maximum Qty / Pack | 220 L | Passenger and Cargo Packing Instructions | 355 | Passenger and Cargo Maximum Qty / Pack | 60 L | Passenger and Cargo Limited Quantity Packing Instructions | Y344 | Passenger and Cargo Limited Maximum Qty / Pack | 10 L |
| Special provisions | A3A72 | | | | | | | | | | | | | | |
| Cargo Only Packing Instructions | 366 | | | | | | | | | | | | | | |
| Cargo Only Maximum Qty / Pack | 220 L | | | | | | | | | | | | | | |
| Passenger and Cargo Packing Instructions | 355 | | | | | | | | | | | | | | |
| Passenger and Cargo Maximum Qty / Pack | 60 L | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Quantity Packing Instructions | Y344 | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Maximum Qty / Pack | 10 L | | | | | | | | | | | | | | |

Sea transport (IMDG-Code / GGVSee)

| | | | | | | | |
|-------------------------------------|---|------------|-----------|--------------------|----------------|--------------------|-----|
| UN number | 1263 | | | | | | |
| Packing group | III | | | | | | |
| UN proper shipping name | PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound) | | | | | | |
| Environmental hazard | No relevant data | | | | | | |
| Transport hazard class(es) | <table border="1"> <tr> <td>IMDG Class</td> <td>3</td> </tr> <tr> <td>IMDG Subrisk</td> <td>Not Applicable</td> </tr> </table> | IMDG Class | 3 | IMDG Subrisk | Not Applicable | | |
| IMDG Class | 3 | | | | | | |
| IMDG Subrisk | Not Applicable | | | | | | |
| Special precautions for user | <table border="1"> <tr> <td>EMS Number</td> <td>F-E , S-E</td> </tr> <tr> <td>Special provisions</td> <td>163 223 955</td> </tr> <tr> <td>Limited Quantities</td> <td>5 L</td> </tr> </table> | EMS Number | F-E , S-E | Special provisions | 163 223 955 | Limited Quantities | 5 L |
| EMS Number | F-E , S-E | | | | | | |
| Special provisions | 163 223 955 | | | | | | |
| Limited Quantities | 5 L | | | | | | |

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

| Source | Ingredient | Pollution Category |
|---|------------|--------------------|
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | xylene | Y |

| | | |
|---|------------------------|---|
| IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk | N-METHYL-2-PYRROLIDONE | Y |
|---|------------------------|---|

SECTION 15 REGULATORY INFORMATION

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

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

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

| | |
|--|--|
| solvent naphtha petroleum, medium aliphatic(64742-88-7) is found on the following regulatory lists | "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code)", "New Zealand Inventory of Chemicals (NZIoC)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "OSPAR List of Chemicals for Priority Action", "FisherTransport Information", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "OECD Existing Chemicals Database", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule; Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities" |
| xylene(1330-20-7) is found on the following regulatory lists | "International Council of Chemical Associations (ICCA) - High Production Volume List", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Maritime Dangerous Goods Requirements (IMDG Code)", "New Zealand Inventory of Chemicals (NZIoC)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "OSPAR List of Chemicals for Priority Action", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards", "FisherTransport Information", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water", "OECD Existing Chemicals Database", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Fragrance Association (IFRA) Survey: Transparency List", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "IMO IBC Code Chapter 17: Summary of minimum requirements" |
| N-METHYL-2-PYRROLIDONE(872-50-4) is found on the following regulatory lists | "International Council of Chemical Associations (ICCA) - High Production Volume List", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "FisherTransport Information", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway", "New Zealand Workplace Exposure Standards (WES)", "International Chemical Secretariat (ChemSec) SIN List ("Substitute It Now!)", "OECD Existing Chemicals Database", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)", "IMO IBC Code Chapter 17: Summary of minimum requirements" |

Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations a location test certificate is required when quantity greater than or equal to those indicated below are present.

| Hazard Class | Quantity beyond which controls apply for closed containers | Quantity beyond which controls apply when use occurring in open containers |
|--------------|--|--|
| 3.1C | 500 L in containers greater than 5 L 1500 L in containers up to and including 5 L | 250 L 250 L |

Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

| Class of substance | Quantities |
|--------------------|----------------|
| Not Applicable | Not Applicable |

SECTION 16 OTHER INFORMATION

Other information

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

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

www.chemwatch.net/references

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

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