

APPLIED 8080

ITW POLYMERS & FLUIDS

Chemwatch: 8546-24

Version No: 6.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 10/03/2023

Print Date: 13/03/2024

S.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|---------------------|
| Product name | APPLIED 8080 |
| Chemical Name | Not Applicable |
| Synonyms | A8080 |
| Proper shipping name | TETRACHLOROETHYLENE |
| Chemical formula | Not Applicable |
| Other means of identification | Not Available |

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

| | |
|--------------------------|----------------------------|
| Relevant identified uses | Electrical safety solvent. |
|--------------------------|----------------------------|

Details of the manufacturer or supplier of the safety data sheet

| Registered company name | ITW POLYMERS & FLUIDS | ITW Polymers & Fluids (NZ) |
|-------------------------|--|---|
| Address | 100 Hassall Street, Wetherill Park NSW 2164 Australia | Unit 2/38 Trugood Drive, East Tamaki, Auckland 2013 New Zealand |
| Telephone | +61 2 9757 8800 | 0800 476 265 |
| Fax | +61 2 9757 3855 | +64 9 273 6489 |
| Website | www.itwpf.com.au | www.itwpf.co.nz |
| Email | Not Available | Not Available |

Emergency telephone number

| Association / Organisation | CHEMWATCH EMERGENCY RESPONSE (24/7) | ITW Polymers & Fluids (NZ) | CHEMWATCH EMERGENCY RESPONSE (24/7) |
|-----------------------------------|-------------------------------------|----------------------------|-------------------------------------|
| Emergency telephone numbers | +61 1800 951 288 | 0800 2436 2255 | +61 1800 951 288 |
| Other emergency telephone numbers | +61 3 9573 3188 | Not Available | +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] | Acute Toxicity (Oral) Category 4, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Inhalation) Category 4, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Carcinogenicity Category 2, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 2 |
| 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)

| | |
|-------|--|
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H361d | Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statement(s) General

| | |
|------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P103 | Read carefully and follow all instructions. |

Precautionary statement(s) Prevention

| | |
|------|--|
| P201 | Obtain special instructions before use. |
| P260 | Do not breathe mist/vapours/spray. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider. |
| P331 | Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious). |
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |
| 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

| | |
|-----------|--|
| P405 | Store locked up. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

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 |
|------------|-----------|--|
| 127-18-4 | 30-60 | <u>tetrachloroethylene</u> |
| 64742-88-7 | 30-60 | <u>solvent naphtha petroleum, medium aliphatic</u> |

| CAS No | %[weight] | Name |
|---|-----------|---------------------------|
| 75-09-2 | 1-10 | <u>methylene chloride</u> |
| Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available | | |

SECTION 4 First aid measures

Description of first aid measures

| | |
|---------------------|---|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with fresh running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |
| Inhalation | <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. |
| 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. |

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 intoxication due to Freons/ Halons;

A: Emergency and Supportive Measures

- ▶ Maintain an open airway and assist ventilation if necessary
- ▶ Treat coma and arrhythmias if they occur. Avoid (adrenaline) epinephrine or other sympathomimetic amines that may precipitate ventricular arrhythmias. Tachyarrhythmias caused by increased myocardial sensitisation may be treated with propranolol, 1-2 mg IV or esmolol 25-100 microgm/kg/min IV.
- ▶ Monitor the ECG for 4-6 hours

B: Specific drugs and antidotes:

- ▶ There is no specific antidote

C: Decontamination

- ▶ Inhalation; remove victim from exposure, and give supplemental oxygen if available.
- ▶ Ingestion; (a) Prehospital: Administer activated charcoal, if available. **DO NOT** induce vomiting because of rapid absorption and the risk of abrupt onset CNS depression. (b) Hospital: Administer activated charcoal, although the efficacy of charcoal is unknown. Perform gastric lavage only if the ingestion was very large and recent (less than 30 minutes)

D: Enhanced elimination:

- ▶ There is no documented efficacy for diuresis, haemodialysis, haemoperfusion, or repeat-dose charcoal.

POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition

- ▶ Do not administer sympathomimetic drugs unless absolutely necessary as material may increase myocardial irritability.
- ▶ No specific antidote.
- ▶ Because rapid absorption may occur through lungs if aspirated and cause systematic effects, the decision of whether to induce vomiting or not should be made by an attending physician.
- ▶ If lavage is performed, suggest endotracheal and/or esophageal control.
- ▶ Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.
- ▶ Treatment based on judgment of the physician in response to reactions of the patient

DO NOT administer sympathomimetic drugs as they may cause ventricular arrhythmias.

For acute or short term repeated exposures to perchloroethylene:

- ▶ Tetrachloroethylene / perchloroethylene is well absorbed through the lungs with peak levels more important than duration in determining blood concentration. Lungs excrete most of the absorbed tetrachloroethylene in an unchanged state; about 3% is converted by the liver to form trichloroacetic acid and subsequently

excreted by the kidney. Exhaled material has a biological half-life of 65 hours.

INHALATION:

- ▶ The treatment of acute inhalation exposures is supportive with initial attention directed to evaluation / support of ventilation and circulation. As with all hydrocarbons care must be taken to reduce the risk of aspiration by proper positioning and medical observation.

INGESTION:

- ▶ The ingestion level at which emesis should be induced is difficult to predict in the absence of extensive human studies.
- ▶ The role of charcoal and cathartics remains uncertain.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

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

| Determinant | Index | Sampling Time | Comments |
|---|--------|----------------------------------|----------|
| 1. Perchloroethylene in end-exhaled air | 10 ppm | Prior to last shift of work-week | |
| 2. Perchloroethylene in blood | 1 mg/L | Prior to last shift of work-week | |
| 3. Trichloroacetic acid in urine | 7 mg/L | End of work-week | NS, SQ |

NS: Non-specific determinant; also seen after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

SECTION 5 Firefighting measures**Extinguishing media**

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

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 | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use fire fighting procedures suitable for surrounding area. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Non flammable liquid. ▶ However vapour will burn when in contact with high temperature flame. ▶ Ignition ceases on removal of flame. ▶ May form a flammable / explosive mixture in an oxygen enriched atmosphere ▶ Heating may cause expansion/vapourisation with violent rupture of containers ▶ Decomposes on heating and produces corrosive fumes of hydrochloric acid, carbon monoxide and small amounts of toxic phosgene. <p>Combustion products include: carbon dioxide (CO₂) hydrogen chloride phosgene other pyrolysis products typical of burning organic material.</p> <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. May emit clouds of acrid smoke May emit poisonous fumes.</p> |
| HAZCHEM | 2Z |

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 | <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. |
|---------------------|--|

| | |
|---------------------|---|
| Major Spills | <p>Clear area of personnel and move upwind.</p> <p>Alert Fire Brigade and tell them location and nature of hazard.</p> <p>Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses.</p> |
|---------------------|---|

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

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. ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Avoid contact with moisture. |
| Other information | <ul style="list-style-type: none"> ▶ Store below 38 deg. C. ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|---|
| Suitable container | <ul style="list-style-type: none"> ▶ DO NOT use aluminium or galvanised containers ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer. |
| Storage incompatibility | <p>Segregate from:</p> <ul style="list-style-type: none"> ▶ powdered metals such as aluminium, zinc and ▶ alkali metals such as sodium, potassium and lithium. <p>May attack, soften or dissolve rubber, many plastics, paints and coatings</p> <ul style="list-style-type: none"> ▶ Avoid magnesium, aluminium and their alloys, brass and steel. ▶ Avoid reaction with oxidising agents |

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 | tetrachloroethylene | Perchloroethylene | 50 ppm / 340 mg/m3 | 1020 mg/m3 / 150 ppm | Not Available | Not Available |
| Australia Exposure Standards | solvent naphtha petroleum, medium aliphatic | Oil mist, refined mineral | 5 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | methylene chloride | Methylene chloride | 50 ppm / 174 mg/m3 | Not Available | Not Available | Not Available |

Emergency Limits

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---------------|---------------|---------------|
| tetrachloroethylene | Not Available | Not Available | Not Available |
| solvent naphtha petroleum, medium aliphatic | 1,200 mg/m3 | 6,700 mg/m3 | 40,000 mg/m3 |
| methylene chloride | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---|---------------|---------------|
| tetrachloroethylene | 150 ppm | Not Available |
| solvent naphtha petroleum, medium aliphatic | 2,500 mg/m3 | Not Available |
| methylene chloride | 2,300 ppm | Not Available |

Exposure controls

| | |
|--|--|
| Appropriate engineering controls | <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.</p> <p>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</p> |
| Individual protection measures, such as personal protective equipment |  |
| Eye and face protection | <ul style="list-style-type: none"> ▸ 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. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▸ Wear chemical protective gloves, e.g. PVC. ▸ Wear safety footwear or safety gumboots, e.g. Rubber <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>Personal hygiene is a key element of effective hand care.</p> |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▸ Overalls. ▸ Eyewash unit. ▸ Barrier cream. ▸ Skin cleansing cream. |

Respiratory protection

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

| | | | |
|---|--|--|---------------|
| Appearance | Clear water-white mobile liquid with chlorinated hydrocarbon odour; not miscible with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.6 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | Not Available | Decomposition temperature (°C) | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | 50-170 | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | 100 |
| Vapour pressure (kPa) | 4.9 @20C | Gas group | Not Available |

Continued...

| | | | |
|---------------------------------|------------|------------------------------|---------------|
| Solubility in water | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | >1 | VOC g/L | Not Available |

SECTION 10 Stability and reactivity

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|---|--|
| 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>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.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Depression of the central nervous system is the most outstanding effect of most halogenated aliphatic hydrocarbons. Inebriation and excitation, passing into narcosis, is a typical reaction. In severe acute exposures there is always a danger of death from respiratory failure or cardiac arrest due to a tendency to make the heart more susceptible to catecholamines (adrenalin)</p> <p>Anaesthetics and narcotic effects (with dulling of senses and odour fatigue) are a consequence of exposure to chlorinated solvents.</p> <p>Individual response varies widely; odour may not be considered objectionable at levels which quickly induce central nervous system effects. High vapour concentrations may give a feeling of euphoria. This may result in reduced responses, followed by rapid onset of unconsciousness, possible respiratory arrest and death.</p> |
| Ingestion | <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.</p> |
| Skin Contact | <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>This material can cause inflammation of the skin on contact in some persons.</p> <p>Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation.</p> |
| Eye | <p>This material can cause eye irritation and damage in some persons.</p> <p>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).</p> |
| Chronic | <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p> <p>Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS]</p> |

| | | |
|----------------------------|---|--|
| APPLIED 8080 | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| tetrachloroethylene | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >10000 mg/kg ^[1] | Eye (rabbit): 162 mg -mild |
| | Inhalation(Mouse) LC50; 35 mg/4h ^[2] | Eye: adverse effect observed (irritating) ^[1] |

| | | |
|--|---|--|
| | Oral (Rat) LD50: 2629 mg/kg ^[2] | Skin (rabbit): 810 mg/24h - SEVERE |
| | | Skin: adverse effect observed (irritating) ^[1] |
| | | Skin: no adverse effect observed (not irritating) ^[1] |
| solvent naphtha petroleum, medium aliphatic | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >2000 mg/kg ^[1] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Inhalation (Rat) LC50: >4.3 mg/L4h ^[1] | Skin: no adverse effect observed (not irritating) ^[1] |
| | Oral (Rat) LD50: >5000 mg/kg ^[2] | |
| methylene chloride | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye(rabbit): 162 mg - moderate |
| | Inhalation (Rat) LC50: 76 mg/L4h ^[2] | Eye(rabbit): 500 mg/24hr - mild |
| | Oral (Rat) LD50: 1600 mg/kg ^[2] | Skin (rabbit): 100mg/24hr-moderate |
| | | Skin (rabbit): 810 mg/24hr-SEVERE |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|---|--|
| TETRACHLOROETHYLENE | <p>Disinfection byproducts (DBPs) are formed when disinfectants such as chlorine, chloramines and ozone react with organic and inorganic matter in water. Animal studies have shown that some DBPs cause cancer. To date, several hundred DBPs have been identified.</p> <p>Numerous haloalkanes and haloalkenes have been tested for cancer-causing and mutation-causing activities. In general, the potential to cause genetic toxicity is dependent on the nature, number and position of halogen(s) and the size of the molecule. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> |
| SOLVENT NAPHTHA PETROLEUM, MEDIUM ALIPHATIC | <p>Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the 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.</p> <p>The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell. Petroleum contains aromatic (benzene, toluene, ethyl benzene, naphthalene) and aliphatic hydrocarbons (n-hexane), which can result in many detrimental health effects, including, cancer, tumour formation, hearing loss, and nervous system toxicity. Animal testing shows breathing in petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans. Similarly, exposure to gasoline over a lifetime can cause kidney cancer in animals, but the relevance in humans is questionable.</p> <p>Most studies involving gasoline have shown that gasoline does not cause genetic mutation, including all recent studies in living human subjects (such as in petrol service station attendants).</p> <p>Animal studies show concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus. Prolonged contact with petroleum may result in skin inflammation and make the skin more sensitive to irritation and penetration by other materials.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>For toluene:</p> <p>Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy. Exposure to inhalation at a concentration of 600 parts per million for 8 hours resulted in the same and more serious symptoms including euphoria (a feeling of well-being), dilated pupils, convulsions and nausea.</p> |
| METHYLENE CHLORIDE | <p>Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild</p> <p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> |
| TETRACHLOROETHYLENE & METHYLENE CHLORIDE | <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.</p> <p>WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.</p> |
| Acute Toxicity | ✓ |
| Carcinogenicity | ✓ |

| | | | |
|-----------------------------------|---|--------------------------|---|
| Skin Irritation/Corrosion | ✓ | Reproductiveity | ✓ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✓ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✓ |
| Mutagenicity | ✗ | Aspiration Hazard | ✓ |

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 Ecological information

Toxicity

| APPLIED 8080 | Endpoint | Test Duration (hr) | Species | Value | Source |
|--------------|---------------|--------------------|---------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

| tetrachloroethylene | Endpoint | Test Duration (hr) | Species | Value | Source |
|---------------------|-----------|--------------------|-------------------------------|-----------|--------|
| | EC50 | 96h | Algae or other aquatic plants | 500mg/l | 1 |
| | BCF | 1344h | Fish | 25.8-77.1 | 7 |
| | EC50 | 48h | Crustacea | 22mg/l | 1 |
| | EC50 | 72h | Algae or other aquatic plants | ~0.2mg/l | 4 |
| | EC50(ECx) | 24h | Crustacea | 3.2mg/l | 1 |
| | LC50 | 96h | Fish | >3<6mg/l | 4 |

| solvent naphtha petroleum, medium aliphatic | Endpoint | Test Duration (hr) | Species | Value | Source |
|---|-----------|--------------------|-------------------------------|----------|--------|
| | EC50 | 48h | Crustacea | >100mg/l | 1 |
| | EC50 | 96h | Algae or other aquatic plants | 450mg/l | 1 |
| | EC50(ECx) | 48h | Crustacea | >100mg/l | 1 |

| methylene chloride | Endpoint | Test Duration (hr) | Species | Value | Source |
|--------------------|-----------|--------------------|-------------------------------|-------------|--------|
| | EC50(ECx) | 96h | Algae or other aquatic plants | 0.98mg/l | 4 |
| | LC50 | 96h | Fish | 2-3.3mg/l | 4 |
| | BCF | 1008h | Fish | 2-5.4 | 7 |
| | EC50 | 48h | Crustacea | 108.5mg/l | 1 |
| | EC50 | 96h | Algae or other aquatic plants | 0.98mg/l | 4 |
| | EC50 | 72h | Algae or other aquatic plants | 202-286mg/l | 4 |

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Toxic to aquatic 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 Hydrocarbons: log Kow 1. BCF~10.

For Aromatics: log Kow 2-3.

BCF 20-200.

For Tetrachloroethylene (Synonym: Perchloroethylene): log Koc: 2.38 - 2.9. 7; Koc: 209 – 1685; Half-life (hr) H2O surface water: 26.4-2664; Henry's atm m3 /mol: 1.49E-02; BOD 5: 0.06; COD: 0.39; BCF: 38.9-226; Log BCF: 1.59.

Atmospheric Fate: Long-range global transport of tetrachloroethylene is likely. Dry deposition does not appear to be a significant removal process, although substantial evaporation from dry surfaces can be predicted.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---------------------|-----------------------------|----------------------------------|
| tetrachloroethylene | HIGH (Half-life = 720 days) | MEDIUM (Half-life = 160.13 days) |
| methylene chloride | LOW (Half-life = 56 days) | HIGH (Half-life = 191 days) |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---------------------|------------------|
| tetrachloroethylene | LOW (BCF = 77.1) |
| methylene chloride | LOW (BCF = 40) |

Mobility in soil

| Ingredient | Mobility |
|---------------------|-----------------------|
| tetrachloroethylene | LOW (Log KOC = 106.8) |
| methylene chloride | LOW (Log KOC = 23.74) |

SECTION 13 Disposal considerations

Waste treatment methods

| Product / Packaging disposal | |
|------------------------------|--|
| | <ul style="list-style-type: none"> ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Management Authority for disposal. ▶ Bury residue in an authorised landfill. ▶ Recycle containers if possible, or dispose of in an authorised landfill. |

SECTION 14 Transport information

Labels Required

| | |
|------------------|---|
| |  |
| Marine Pollutant |  |
| HAZCHEM | 2Z |

Land transport (ADG)

| | | |
|------------------------------------|---------------------------|----------------|
| 14.1. UN number or ID number | 1897 | |
| 14.2. UN proper shipping name | TETRACHLOROETHYLENE | |
| 14.3. Transport hazard class(es) | Class | 6.1 |
| | Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Environmentally hazardous | |
| 14.6. Special precautions for user | Special provisions | Not Applicable |
| | Limited quantity | 5 L |

Air transport (ICAO-IATA / DGR)

| | | |
|----------------------------------|-------------------------------|----------------|
| 14.1. UN number | 1897 | |
| 14.2. UN proper shipping name | Tetrachloroethylene | |
| 14.3. Transport hazard class(es) | ICAO/IATA Class | 6.1 |
| | ICAO / IATA Subsidiary Hazard | Not Applicable |
| | ERG Code | 6L |

| | | |
|------------------------------------|---|----------------|
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Environmentally hazardous | |
| 14.6. Special precautions for user | Special provisions | Not Applicable |
| | Cargo Only Packing Instructions | 663 |
| | Cargo Only Maximum Qty / Pack | 220 L |
| | Passenger and Cargo Packing Instructions | 655 |
| | Passenger and Cargo Maximum Qty / Pack | 60 L |
| | Passenger and Cargo Limited Quantity Packing Instructions | Y642 |
| | Passenger and Cargo Limited Maximum Qty / Pack | 2 L |

Sea transport (IMDG-Code / GGVSee)

| | | |
|------------------------------------|------------------------|----------------|
| 14.1. UN number | 1897 | |
| 14.2. UN proper shipping name | TETRACHLOROETHYLENE | |
| 14.3. Transport hazard class(es) | IMDG Class | 6.1 |
| | IMDG Subsidiary Hazard | Not Applicable |
| 14.4. Packing group | III | |
| 14.5. Environmental hazard | Marine Pollutant | |
| 14.6. Special precautions for user | EMS Number | F-A , S-A |
| | Special provisions | Not Applicable |
| | Limited Quantities | 5 L |

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---|---------------|
| tetrachloroethylene | Not Available |
| solvent naphtha petroleum, medium aliphatic | Not Available |
| methylene chloride | Not Available |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|---------------|
| tetrachloroethylene | Not Available |
| solvent naphtha petroleum, medium aliphatic | Not Available |
| methylene chloride | Not Available |

SECTION 15 Regulatory information

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

tetrachloroethylene 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 6

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

Continued...

solvent naphtha petroleum, medium aliphatic is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

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

methylene chloride 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 5

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

Additional Regulatory Information

Not Applicable

National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (tetrachloroethylene; solvent naphtha petroleum, medium aliphatic; methylene chloride) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| 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 | 10/03/2023 |
| Initial Date | 02/11/2008 |

SDS Version Summary

| Version | Date of Update | Sections Updated |
|---------|----------------|---|
| 5.1 | 10/12/2021 | Classification change due to full database hazard calculation/update. |
| 6.1 | 10/03/2023 | Classification change due to full database hazard calculation/update. |

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 considered.

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