FleetGuard Fleet-Tech Asphaltene Conditioner

Fleetguard
Chemwatch: 4713-6
Version No: 4.1.1.1
Material Safety Data Sheet according to NOHSC and ADG requirements

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

<table>
<thead>
<tr>
<th>Product Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
</tr>
<tr>
<td><strong>Chemical Name</strong></td>
</tr>
<tr>
<td><strong>Synonyms</strong></td>
</tr>
<tr>
<td><strong>Proper shipping name</strong></td>
</tr>
<tr>
<td><strong>Chemical formula</strong></td>
</tr>
<tr>
<td><strong>Other means of identification</strong></td>
</tr>
<tr>
<td><strong>CAS number</strong></td>
</tr>
</tbody>
</table>

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

Relevant identified uses: Use according to manufacturer's directions.

Details of the manufacturer/importer

- **Registered company name**: Fleetguard
- **Address**: 31 Garden Street Kilsyth 3137 VIC Australia
- **Telephone**: +61 3 9721 9100
- **Fax**: +61 3 9721 9148
- **Website**: Not Available
- **Email**: Not Available

Emergency telephone number

- **Association / Organisation**: Not Available
- **Emergency telephone numbers**: +61 3 9573 3112
- **Other emergency telephone numbers**: +61 3 9573 3112

CHEMWATCH EMERGENCY RESPONSE

<table>
<thead>
<tr>
<th>Primary Number</th>
<th>Alternative Number 1</th>
<th>Alternative Number 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 039 008</td>
<td>+612 9186 1132</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

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 SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**
  - COMBUSTIBLE LIQUID, regulated for storage purposes only

- **CHEMWATCH HAZARD RATINGS**

Continued...
### Poisons Schedule

| Poisons Schedule | Not Applicable |

### Risk Phrases [1]

- **R20/21/22**: Harmful by inhalation, in contact with skin and if swallowed.
- **R36/37/38**: Irritating to eyes, respiratory system and skin.
- **R51/53**: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **R65**: HARMFUL - May cause lung damage if swallowed.
- **R40(3)**: Limited evidence of a carcinogenic effect.

**Legend:**
1. Classified by Chemwatch;
2. Classification drawn from HSIS;

### Relevant risk statements are found in section 2

#### Indication(s) of danger

| Xn, N |

### SAFETY ADVICE

- **S07**: Keep container tightly closed.
- **S09**: Keep container in a well ventilated place.
- **S13**: Keep away from food, drink and animal feeding stuffs.
- **S23**: Do not breathe gas/fumes/vapour/spray.
- **S25**: Avoid contact with eyes.
- **S26**: In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- **S29**: Do not empty into drains.
- **S35**: This material and its container must be disposed of in a safe way.
- **S36**: Wear suitable protective clothing.
- **S37**: Wear suitable gloves.
- **S39**: Wear eye/face protection.
- **S40**: To clean the floor and all objects contaminated by this material, use water and detergent.
- **S46**: If swallowed, seek medical advice immediately and show this container or label.
- **S51**: Use only in well ventilated areas.
- **S53**: Avoid exposure - obtain special instructions before use.
- **S56**: Dispose of this material and its container at hazardous or special waste collection point.
- **S57**: Use appropriate container to avoid environmental contamination.
- **S61**: Avoid release to the environment. Refer to special instructions/Safety data sheets.
- **S64**: If swallowed, rinse mouth with water (only if the person is conscious).

### Other hazards

- Cumulative effects may result following exposure*.
- Possible skin sensitizer*.
- Repeated exposure potentially causes skin dryness and cracking*.
- Vapours potentially cause drowsiness and dizziness*.

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances
See section below for composition of Mixtures

Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-94-5</td>
<td>1-10</td>
<td>solvent naphtha petroleum, heavy aromatic</td>
</tr>
<tr>
<td>91-20-3</td>
<td>0-10</td>
<td>naphthalene</td>
</tr>
<tr>
<td>25551-13-7</td>
<td>0-10</td>
<td>trimethylbenzene (mixed isomers)</td>
</tr>
<tr>
<td>95-63-6</td>
<td>0-10</td>
<td>1,2,4-trimethyl benzene</td>
</tr>
</tbody>
</table>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact
If this product comes in contact with the eyes:
- 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.

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

Inhalation
- If fumes, aerosols or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

Ingestion
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.
- Avoid giving milk or oils.
- Avoid giving alcohol.

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 acute or short term repeated exposures to petroleum distillates or related hydrocarbons:
- Primary threat to life, from pure petroleum distillate 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) 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 cardiosselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIREFIGHTING MEASURES

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

Special hazards arising from the substrate or mixture
- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may
Advice for firefighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

Fire/ Explosion Hazard

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

<table>
<thead>
<tr>
<th>Minor Spills</th>
<th>Environmental hazard - contain spillage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean up all spills immediately.</td>
<td></td>
</tr>
<tr>
<td>Avoid breathing vapours and contact with skin and eyes.</td>
<td></td>
</tr>
<tr>
<td>Control personal contact with the substance, by using protective equipment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Spills</th>
<th>Environmental hazard - contain spillage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate hazard.</td>
<td></td>
</tr>
<tr>
<td>Clear area of personnel and move upwind.</td>
<td></td>
</tr>
<tr>
<td>Alert Fire Brigade and tell them location and nature of hazard.</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

Other information

- 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

- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.
- Avoid reaction with oxidising agents

PACKAGE MATERIAL INCOMPATIBILITIES

- Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

[ OCCUPATIONAL EXPOSURE LIMITS (OEL) ]

<table>
<thead>
<tr>
<th>INGREDIENT DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
</tr>
<tr>
<td>Australia Exposure Standards</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMERGENCY LIMITS</th>
<th><strong>TEEL-1</strong></th>
<th><strong>TEEL-2</strong></th>
<th><strong>TEEL-3</strong></th>
</tr>
</thead>
</table>
Exposure controls

Appropriate engineering controls
Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:
- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Personal protection

Eye and face protection
- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection
See Hand protection below

Hands/feet protection
- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

Body protection
See Other protection below

Other protection
- Overalls.
- P.V.C. apron.
- Barrier cream.

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:
FleetGuard Fleet-Tech Asphaltene Conditioner

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEFLOL</td>
<td>A</td>
</tr>
</tbody>
</table>

* 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.

Respiratory protection

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.

<table>
<thead>
<tr>
<th>Required Minimum Protection Factor</th>
<th>Half-Face Respirator</th>
<th>Full-Face Respirator</th>
<th>Powered Air Respirator</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 5 x ES</td>
<td>A-AUS / Class 1 P3</td>
<td>-</td>
<td>A-PAPR-AUS / Class 1 P3</td>
</tr>
<tr>
<td>up to 25 x ES</td>
<td>Air-line*</td>
<td>A-2 P3</td>
<td>A-PAPR-2 P3</td>
</tr>
<tr>
<td>up to 50 x ES</td>
<td>-</td>
<td>A-3 P3</td>
<td>-</td>
</tr>
<tr>
<td>50+ x ES</td>
<td>-</td>
<td>Air-line**</td>
<td>-</td>
</tr>
</tbody>
</table>
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Amber coloured, combustible liquid with an aromatic hydrocarbon odour; does not mix with water</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Partition coefficient n-octanol / water</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Odour threshold</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature (°C)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>pH (as supplied)</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Melting point / freezing point (°C)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Viscosity (cSt)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range (°C)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Flash point (°C)</strong></td>
<td>62</td>
</tr>
<tr>
<td><strong>Taste</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>Combustible.</td>
</tr>
<tr>
<td><strong>Oxidising properties</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Upper Explosive Limit (%)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Surface Tension (dyn/cm or mN/m)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Lower Explosive Limit (%)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Volatile Component (%vol)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Vapour pressure (kPa)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Gas group</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>Solubility in water (g/L)</strong></td>
<td>Immiscible</td>
</tr>
<tr>
<td><strong>pH as a solution (1%)</strong></td>
<td>Not Applicable</td>
</tr>
<tr>
<td><strong>Vapour density (Air = 1)</strong></td>
<td>Not Available</td>
</tr>
<tr>
<td><strong>VOC g/L</strong></td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 10 STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reactivity</strong></td>
<td>See section 7</td>
</tr>
</tbody>
</table>
| **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

<table>
<thead>
<tr>
<th>Route of Exposure</th>
<th>Effects</th>
</tr>
</thead>
</table>
| **Inhaled**       | Harmful by inhalation. If inhaled, this material can irritate the throat and lungs of some persons.  
                              | 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.  
                              | 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. |
Ingestion
Harmful if swallowed. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)
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.

Skin Contact
Harmful in contact with skin. This material can cause inflammation of the skin on contact in some persons. 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.

Eye
This material can cause eye irritation and damage in some persons. Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.

Chronic
Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population. 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.

---

### TOXICITY AND IRRITATION

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FleetGuard Fleet-Tech Asphaltene Conditioner</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha petroleum, heavy aromatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;3160 mg/kg</td>
<td></td>
<td>[PETROFIN]</td>
</tr>
<tr>
<td>Oral (rat) LD50: 3200 mg/kg</td>
<td>Eye (rabbit): Irritating</td>
<td></td>
</tr>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>trimethylbenzene (mixed isomers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 8970 mg/kg</td>
<td>Eye (rabbit): 500 mg/24h - mild</td>
<td></td>
</tr>
<tr>
<td>Skin (rabbit): 500 mg/24h-moderate</td>
<td>Not Available</td>
<td></td>
</tr>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity</th>
<th>Irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4-trimethyl benzene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 18000 mg/m3/4h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

**Not available. Refer to individual constituents.**

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### SOLVENT NAPHTHA PETROLEUM, HEAVY AROMATIC

**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.

**NAPHTHALENE**
Unrep. (human) LDLo: 29 mg/kg Eye (rabbit): 100 mg - mild Unrep. (man) LDLo: 74 mg/kg Oral (rat) LD50: 490 mg/kg Dermal (rat) LD50: >2500 mg/kg
The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
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.
**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
TRIMETHYLBENZENE (MIXED ISOMERS)  

NOTE: This data is for mixed isomers of unstated proportions.

1,2,4-TRIMETHYL BENZENE  

Other Toxicity data is available for CHEMWATCH 12172 1,2,3-trimethylbenzene CHEMWATCH 2325 1,3,5-trimethylbenzene.

TRIMETHYLBENZENE (MIXED ISOMERS), 1,2,4-TRIMETHYL BENZENE  

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergic 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 hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

### 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
Not Applicable

SECTION 12 ECOLOGICAL INFORMATION

Toxicity
Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).  
Toxic to aquatic organisms.  
May cause long-term adverse effects in the aquatic environment.  
DO NOT discharge into sewer or waterways.

Persistence and degradability

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td>HIGH (Half-life = 258 days)</td>
<td>LOW (Half-life = 1.23 days)</td>
</tr>
<tr>
<td>1,2,4-trimethyl benzene</td>
<td>LOW (Half-life = 56 days)</td>
<td>LOW (Half-life = 0.67 days)</td>
</tr>
</tbody>
</table>

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>solvent naphtha petroleum, heavy aromatic</td>
<td>LOW (BCF = 159)</td>
</tr>
<tr>
<td>naphthalene</td>
<td>HIGH (BCF = 18000)</td>
</tr>
<tr>
<td>1,2,4-trimethyl benzene</td>
<td>LOW (BCF = 275)</td>
</tr>
</tbody>
</table>

Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>naphthalene</td>
<td>LOW (KOC = 1837)</td>
</tr>
<tr>
<td>1,2,4-trimethyl benzene</td>
<td>LOW (KOC = 717.6)</td>
</tr>
</tbody>
</table>

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods
- Containers may still present a chemical hazard/ danger when empty.  
- Return to supplier for reuse/ recycling if possible. Otherwise:  
- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to...
SECTION 14 TRANSPORT INFORMATION

Labels Required

| Marine Pollutant | HAZCHEM <3Z |

Land transport (ADG)

- **UN number**: 3082
- **Packing group**: III
- **UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- **Environmental hazard**: No relevant data
- **Transport hazard class(es)**:
  - Class: 9
  - Subrisk: Not Applicable
- **Special precautions for user**: 179 274 331 335 AU01
  - Limited quantity: 5 L

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in:
(a) packagings;
(b) IBCs; or
(c) any other receptacle not exceeding 500 kg (L).
- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.

Air transport (ICAO-IATA / DGR)

- **UN number**: 3082
- **Packing group**: III
- **UN proper shipping name**: Environmentally hazardous substance, liquid, n.o.s.*
- **Environmental hazard**: No relevant data
- **Transport hazard class(es)**:
  - ICAO/IATA Class: 9
  - ICAO / IATA Subrisk: Not Applicable
  - ERG Code: 9L
- **Special precautions for user**: A97A158
  - Cargo Only Packing Instructions: 964
  - Cargo Only Maximum Qty / Pack: 450 L
  - Passenger and Cargo Packing Instructions: 964
  - Passenger and Cargo Maximum Qty / Pack: 450 L
  - Passenger and Cargo Limited Quantity Packing Instructions: Y964
  - Passenger and Cargo Limited Maximum Qty / Pack: 30 kg G

Sea transport (IMDG-Code / GGVSee)

- **UN number**: 3082
- **Packing group**: III
- **UN proper shipping name**: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Environmental hazard: No relevant data

Transport hazard class(es):
- IMDG Class: 9
- IMDG Subrisk: Not Applicable

Special precautions for user:
- EMS Number: F-A, S-F
- Special provisions: 274 335
- Limited Quantities: 5 L

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

<table>
<thead>
<tr>
<th>Source</th>
<th>Ingredient</th>
<th>Pollution Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>naphthalene</td>
<td>X</td>
</tr>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>trimethylbenzene (mixed isomers)</td>
<td>X; Y</td>
</tr>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>1,2,4-trimethyl benzene</td>
<td>Y; X</td>
</tr>
</tbody>
</table>

SECTION 15 REGULATORY INFORMATION

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

- solvent naphtha petroleum, heavy aromatic(64742-94-5) is found on the following regulatory lists
  - "Australia Inventory of Chemical Substances (AICS)"; "Australia Hazardous Substances Information System - Consolidated Lists"

- naphthalene(91-20-3) is found on the following regulatory lists
  - "Australia Exposure Standards"; "Australia Inventory of Chemical Substances (AICS)"; "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs"; "Australia Hazardous Substances Information System - Consolidated Lists"

- trimethylbenzene (mixed isomers) (25551-13-7) is found on the following regulatory lists
  - "Australia Exposure Standards"; "Australia Inventory of Chemical Substances (AICS)"; "Australia Hazardous Substances Information System - Consolidated Lists"

- 1,2,4-trimethyl benzene(95-63-6) is found on the following regulatory lists
  - "Australia Inventory of Chemical Substances (AICS)"; "Australia Hazardous Substances Information System - Consolidated Lists"

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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