HiChem Industries (HiChem Paint Technologies)

Chemwatch: 59-1689
Version No: 2.1.1.1
Safety Data Sheet according to WHS and ADG requirements

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

Product Identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>Aerosol- Black Gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td>BGAL400</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>AEROSOLS</td>
</tr>
<tr>
<td>Other means of</td>
<td>Not Available</td>
</tr>
<tr>
<td>identification</td>
<td></td>
</tr>
</tbody>
</table>

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

| Relevant identified uses | Application is by spray atomisation from a hand held aerosol pack |
| usage                   | Aerosol Black Gal is used as anticorrosive coating on bare steel surfaces. |

Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Registered company name</th>
<th>HiChem Industries (HiChem Paint Technologies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>73 Hallam South Road Hallam 3803 VIC Australia</td>
</tr>
<tr>
<td>Telephone</td>
<td>+61 3 9796 3400</td>
</tr>
<tr>
<td>Fax</td>
<td>+61 3 9796 4500</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.hichem.com.au">www.hichem.com.au</a></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:info@hichem.com.au">info@hichem.com.au</a></td>
</tr>
</tbody>
</table>

Emergency telephone number

<table>
<thead>
<tr>
<th>Association / Organisation</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency telephone numbers</td>
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</tr>
<tr>
<td>Other emergency telephone numbers</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

CHEMWATCH HAZARD RATINGS

<table>
<thead>
<tr>
<th>CHEMWATCH HAZARD RATINGS</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Toxicity</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Body Contact</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Reactivity</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Chronic</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Poisons Schedule: Not Applicable

GHS Classification[^1]

| Flammable Aerosol Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Reproductive Toxicity Category 2, STOT - SE (Resp. Irr.) Category 3, STOT - SE (Narcosis) Category 3, STOT - RE Category 2, Chronic Aquatic Hazard Category 3, Hazardous to the Ozone Layer Category 1 |


Label elements

GHS label elements
Hazard statement(s)

- H222 Extremely flammable aerosol
- H302 Harmful if swallowed
- H312 Harmful in contact with skin
- H322 Harmful if inhaled
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H361 Suspected of damaging fertility or the unborn child
- H335 May cause respiratory irritation
- H336 May cause drowsiness or dizziness
- H337 May cause damage to organs through prolonged or repeated exposure
- H373 May cause respiratory irritation
- H412 Harmful to aquatic life with long lasting effects
- H420 Harms public health and the environment by destroying ozone in the upper atmosphere
- AUH044 Risk of explosion if heated under confinement

Precautionary statement(s) Prevention

- P201 Obtain special instructions before use.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P211 Do not spray on an open flame or other ignition source.
- P251 Do not pierce or burn, even after use.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P271 Use only outdoors or in a well-ventilated area.
- P281 Use personal protective equipment as required.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

- P306+P313 IF exposed or concerned: Get medical advice/attention.
- P362 Take off contaminated clothing.
- P363 Wash contaminated clothing before reuse.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 IF eye irritation persists: Get medical advice/attention.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of water and soap.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P330 Rinse mouth.
- P332+P313 IF skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

- P405 Store locked up.
- P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

- P501 Dispose of contents/container in accordance with local regulations.
- P502 Refer to manufacturer/supplier for information on recovery/recycling

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>68476-85-7</td>
<td>30-&lt;60</td>
<td>hydrocarbon propellant</td>
</tr>
<tr>
<td>Not Available</td>
<td>10-&lt;30</td>
<td>Polymeric Synthetic Resins (Non – Hazardous)</td>
</tr>
<tr>
<td>108-88-3</td>
<td>10-&lt;30</td>
<td>toluene</td>
</tr>
</tbody>
</table>

Continued...
**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

**Eye Contact**
- If aerosols come in contact with the eyes:
  - Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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.
  - Transport to hospital or doctor without delay.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
- DO NOT use solvents.

**Skin Contact**
- If solids or aerosol mists are deposited upon the skin:
  - Flush skin and hair with running water (and soap if available).
  - Remove any adhering solids with industrial skin cleansing cream.
- DO NOT use solvents.
- Seek medical attention in the event of irritation.

**Inhalation**
- If aerosols, fumes or combustion products are inhaled:
  - Remove to fresh air.
  - 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.
  - If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, 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**
- Avoid giving milk or oils.
- Avoid giving alcohol.
- Not considered a normal route of entry.
- If spontaneous vomiting appears imminent or occurs, hold patient's head down; lower than their hips to help avoid possible aspiration of vomitus.
- DO NOT induce vomiting. (Use of emetics is contraindicated in hydrocarbon ingestion)

**Indication of any immediate medical attention and special treatment needed**

* Treat symptomatically.

Following acute or short term repeated exposures to toluene:
- Toluene is absorbed across the alveolar barrier, the blood/air mixture being 11.2/15.6 (at 37 degrees C). The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1/3 except in adipose where the proportion is 8/10.
- Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
- Primary threat to life from ingestion and/or inhalation is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (eg 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.
- Arthythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial damage has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- Epinephrine (adrenaline) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use.

**BIOLOGICAL EXPOSURE INDEX - BEI**

**Aerosol- Black Gal**

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Index</th>
<th>Sampling Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-&lt;30</td>
<td>xylene</td>
<td>1-&lt;10</td>
<td></td>
</tr>
<tr>
<td>64742-82-1.</td>
<td>napht, petroleum, hydrosulfurised heavy</td>
<td>1-&lt;10</td>
<td></td>
</tr>
<tr>
<td>100-41-1</td>
<td>styrene</td>
<td>1-&lt;10</td>
<td></td>
</tr>
<tr>
<td>Encapsulated Pigments (Non – Hazardous)</td>
<td>Not Available</td>
<td>1-&lt;10</td>
<td></td>
</tr>
<tr>
<td>Additives (Non – Hazardous)</td>
<td>Not Available</td>
<td>1-&lt;10</td>
<td></td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**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 unequivocal.
- 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.
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**BIOLOGICAL EXPOSURE INDEX - BEI**

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

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Index</th>
<th>Sampling Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylhippuric acids in urine</td>
<td>1.5 gm/gm creatinine</td>
<td>End of shift</td>
<td>B, NS</td>
</tr>
<tr>
<td>Toluene in blood</td>
<td>0.05 mg/L</td>
<td>Prior to last shift of workweek</td>
<td></td>
</tr>
</tbody>
</table>

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

NS: Non-specific determinant; also observed after exposure to other material
SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

SMALL FIRE:
- Water spray, dry chemical or CO2

LARGE FIRE:
- Water spray or fog.

Special hazards arising from the substrate or mixture

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

Advice for firefighters

Fire Fighting
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

Fire/Explosion Hazard
- Liquid and vapour are highly flammable.
- Severe fire hazard when exposed to heat or flame.
- 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.
- Heating may cause expansion or decomposition with violent container rupture.
- Aerosol cans may explode on exposure to naked flames.
- Rupturing containers may rocket and scatter burning materials.
- Hazards may not be restricted to pressure effects.
- May emit acid, poisonous or corrosive fumes.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include: carbon monoxide (CO), carbon dioxide (CO2), other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills
- Environmental hazard - contain spillage.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.
- Wipe up.
- If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.

Major Spills
- Environmental hazard - contain spillage.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- No smoking, naked lights or ignition sources.
- Increase ventilation.
- Stop leak if safe to do so.
- Water spray or fog may be used to disperse/absorb vapour.
- Absorb or cover spill with sand, earth, inert materials or vermiculite.
- If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.
- Undamaged cans should be gathered and stowed safely.
- Collect residues and seal in labelled drums for disposal.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling
- The conductivity of this material may make it a static accumulator. A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semi-conductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
DO NOT incinerate or puncture aerosol cans.
DO NOT spray directly on humans, exposed food or food utensils.
Avoid physical damage to containers.
Always wash hands with soap and water after handling.
Work clothes should be laundered separately.
Use good occupational work practice.
Observe manufacturer's storage and handling recommendations contained within this MSDS.
Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Store below 38 deg. C.
Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can.
Store in original containers in approved flammable liquid storage area.
DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
No smoking, naked lights, heat or ignition sources.
Keep containers securely sealed. Contents under pressure.
Store away from incompatible materials.
Store in a cool, dry, well ventilated area.
Avoid storage at temperatures higher than 40 deg C.
Store in an upright position.
Protect containers against physical damage.
Check regularly for spills and leaks.
Observe manufacturer's storage and handling recommendations contained within this MSDS.

Conditions for safe storage, including any incompatibilities

Suitable container
Aerosol dispenser.
Check that containers are clearly labelled.

Storage incompatibility
Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.
Aromatics can react exothermically with bases and with diazo compounds.
For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring.
Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (in the absence of a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution; a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen.
Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids.
Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides.
Hock rearrangement by the influence of strong acids converts the hydroperoxides to hemiacetals. Peresters formed from the hydroperoxides undergo Criegee rearrangement easily.
Alkaline metals accelerate the oxidation while CO2 as co-oxidant enhances the selectivity.
Microwave conditions give improved yields of the oxidation products.
Photo-oxidation products may occur following reaction with hydroxyl radicals and NOx - these may be components of photochemical smogs. Oxidation of Alkylaromatics: T.S.S Rao and Shubhra Awasthi: E-Journal of Chemistry Vol 4, No. 1, pp 1-13 January 2007
Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances.

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 | hydrocarbon propellant | LPG (liquified petroleum gas) | 1800 mg/m3 / 1000 ppm | Not Available | Not Available | Not Available |
| Australia Exposure Standards | toluene | Toluene | 191 mg/m3 / 50 ppm | 574 mg/m3 / 150 ppm | Not Available | Sk |
| Australia Exposure Standards | xylenes | Xylene (o-, m-, p- isomers) | 350 mg/m3 / 80 ppm | 655 mg/m3 / 150 ppm | Not Available | Not Available |
| Australia Exposure Standards | naphtha, petroleum, hydrodesulphurised | White spirits | 790 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | ethylbenzene | Ethyl benzene | 434 mg/m3 / 100 ppm | 543 mg/m3 / 125 ppm | Not Available | Not Available |

EMERGENCY LIMITS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Material name</th>
<th>TEEL-1</th>
<th>TEEL-2</th>
<th>TEEL-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrocarbon propellant</td>
<td>LPG (liquified petroleum gas; (L.P.G.)</td>
<td>3,000 ppm</td>
<td>3200 ppm</td>
<td>19000 ppm</td>
</tr>
<tr>
<td>toluene</td>
<td>Toluene</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>xylenes</td>
<td>Xylenes</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Naphtha, hydrotreated heavy; (Isopar L-rev 2)</td>
<td>171 ppm</td>
<td>171 ppm</td>
<td>570 ppm</td>
</tr>
<tr>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Solvent naphtha, petroleum, medium aliphatic; (Mineral spirits, naphtha)</td>
<td>0.32 mg/m3</td>
<td>3.5 mg/m3</td>
<td>21 mg/m3</td>
</tr>
<tr>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Rubber solvent; (Naphtha (petroleum) light aliphatic)</td>
<td>264 ppm</td>
<td>1700 ppm</td>
<td>10000 ppm</td>
</tr>
<tr>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Petroleum distillates; (Petroleum crude oil)</td>
<td>87.5 ppm</td>
<td>450 ppm</td>
<td>10000 ppm</td>
</tr>
</tbody>
</table>

Continued...
**Ingredient** | **Original IDLH** | **Revised IDLH**
---|---|---
hydrocarbon propellant | 19,000 [LEL] ppm | 2,000 [LEL] ppm
Polymeric Synthetic Resins (Non – Hazardous) | Not Available | Not Available
toluene | 2,000 ppm | 500 ppm
xylene | 1,000 ppm | 900 ppm
naphtha, petroleum, hydrodesulfurised heavy | 29,500 mg/m³ / 10,000 ppm / 10,000 [LEL] ppm | 20,000 mg/m³ / 1,100 [LEL] ppm / 1,000 [LEL] ppm
ethylbenzene | 2,000 ppm | 800 [LEL] ppm
Encapsulated Pigments (Non – Hazardous) | Not Available | Not Available
Additives (Non – Hazardous) | Not Available | Not Available

**MATERIAL DATA**

**NOTE M:** The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.005% w/w benz[a]pyrene (EINECS No 200-028-5). This note applies only to certain complex oil-derived substances in Annex IV.

**European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP)** - up to the latest ATP

**NOTE P:** The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.01% w/benzene (EINECS No 200-753-7). Note E shall also apply when the substance is classified as a carcinogen. This note applies only to certain complex oil-derived substances in Annex VI.

**European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP)** - up to the latest ATP

**NOTE K:** The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1% w/1,3-butadiene (EINECS No 203-450-8). - European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

### Exposure controls

**CARE:** Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear. Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- Enclosure and/or isolation of emission source which keeps a selected hazard “physically” away from the worker and ventilation that strategically “adds” and “removes” air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

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

- General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.
- Provide adequate ventilation in warehouse or closed storage areas.
- Air contaminants generated in the workplace possess varying “escape” velocities which, in turn, determine the “capture velocities” of fresh circulating air required to effectively remove the contaminant.

**Type of Contaminant:**

- Aerosols, (released at low velocity into zone of active generation)
- Direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)

<table>
<thead>
<tr>
<th>Type of Contaminant</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerrosols</td>
<td>0.5–1 m/s</td>
</tr>
<tr>
<td>Direct spray</td>
<td>1–2.5 m/s (200–500 f/min.)</td>
</tr>
</tbody>
</table>

Within each range the appropriate value depends on:

- Lower end of the range
  - 1: Room air currents minimal or favourable to capture
  - 2: Contaminants of low toxicity or of nuisance value only.
  - 3: Intermittent, low production.
  - 4: Large hood or large air mass in motion

- Upper end of the range
  - 1: Disturbing room air currents
  - 2: Contaminants of high toxicity
  - 3: High production, heavy use
  - 4: Small hood-local control only

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

**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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59] [AS/NZS 1336 or national equivalent]

Skin protection
See Hand protection below

Hands/feet protection
- No special equipment needed when handling small quantities.
- OTHERWISE:
  - Wear general protective gloves, eg. light weight rubber gloves.
  - For potentially heavy exposures:
    - Wear chemical protective gloves, eg. PVC. and safety footwear.

Body protection
See Other protection below

Other protection
- No special equipment needed when handling small quantities.
- OTHERWISE:
  - Overalls.
  - Skin cleansing cream.
  - Eyewash unit.
  - Do not spray on hot surfaces.
  - The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
  - Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

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See Other protection below

Other protection
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  - Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

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:
Aerosol- Black Gal

<table>
<thead>
<tr>
<th>Material</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUTYL</td>
<td>C</td>
</tr>
<tr>
<td>BUTYL/NEOPRENE</td>
<td>C</td>
</tr>
<tr>
<td>CPE</td>
<td>C</td>
</tr>
<tr>
<td>HYPALON</td>
<td>C</td>
</tr>
<tr>
<td>NAT+NEOPR+NITRILE</td>
<td>C</td>
</tr>
<tr>
<td>NATURAL+NEOPRENE</td>
<td>C</td>
</tr>
<tr>
<td>NEOPRENE</td>
<td>C</td>
</tr>
<tr>
<td>NEOPRENE/NATURAL</td>
<td>C</td>
</tr>
<tr>
<td>NITRILE</td>
<td>C</td>
</tr>
<tr>
<td>NITRILE+PVDC</td>
<td>C</td>
</tr>
<tr>
<td>PE/EVALPE</td>
<td>C</td>
</tr>
<tr>
<td>PVA</td>
<td>C</td>
</tr>
<tr>
<td>PVC</td>
<td>C</td>
</tr>
<tr>
<td>PVDC/PE/PVDC</td>
<td>C</td>
</tr>
<tr>
<td>SARANEX-23</td>
<td>C</td>
</tr>
<tr>
<td>SARANEX-23-2 PLY</td>
<td>C</td>
</tr>
<tr>
<td>TFEFLON</td>
<td>C</td>
</tr>
<tr>
<td>VITON</td>
<td>C</td>
</tr>
<tr>
<td>VITON/CHLOROBUTYL</td>
<td>C</td>
</tr>
<tr>
<td>VITON/NEOPRENE</td>
<td>C</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. -
* 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 AX 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.

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

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

Continued...
SECTION 10 STABILITY AND REACTIVITY

- **Reactivity**: See section 7
- **Chemical stability**: 
  - Elevated temperatures,
  - Presence of open flame,
  - 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

### Inhaled

Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Common, generalised symptoms associated with toxic gas inhalation include:

- Central nervous system effects such as depression, headache, confusion, dizziness, progressive stupor, coma and seizures;
- Respiratory system complications may include acute pulmonary oedema, dyspnoea, stridor, tachypnoea, bronchospasmy, wheezing and other reactive airway symptoms, and respiratory arrest;
- Cardiovascular effects may include cardiovascular collapse, arrhythmias and cardiac arrest;
- Gastrointestinal effects may also be present and may include mucus membrane irritation, nausea and vomiting (sometimes bloody), and abdominal pain.

Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination.

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Inhalation hazard is increased at higher temperatures. Acute effects from inhalation of high concentrations of vapour are pulmonary irritation, including coughing, with nausea; central nervous system depression - characterised by headache and dizziness, increased reaction time, fatigue and loss of co-ordination.

Central nervous system (CNS) depression may include nonspecific 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.

### Ingestion

Ingested:

Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death. Significant concentrations of the non-toxic gas reduce the oxygen level in the air. As the amount of oxygen is reduced from 21 to 14 volume %, the pulse rate accelerates and the rate and volume of breathing increase. The ability to maintain attention and think clearly is diminished and muscular coordination is somewhat disturbed. As oxygen decreases from 14-10%, judgement becomes faulty; severe injuries may cause no pain. Muscular exertion leads to rapid fatigue. Further reduction to 6% may produce nausea and vomiting and the ability to move may be lost. Permanent brain damage may result even after resuscitation at exposures to this lower oxygen level. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in a few minutes.

**WARNING** Intentional misuse by concentration/ingesting contents may be lethal.

### Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Not normally a hazard due to physical form of product.
Skin Contact

Skin contact with the material may be harmful; systemic effects may result following absorption. The material produces moderate skin irritation; evidence exists, or practical experience predicts, that the material either

- produces moderate irritation of the skin in a substantial number of individuals following direct contact, and/or
- produces significant, but moderate, irritation when applied to the healthy intact skin of animals (for up to four hours), such irritation 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 (non-eczematous). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesication), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongiosa and intracellular oedema of the epidermis. Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Spray mist may produce discomfort.

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

Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.

Eyes

Evidence exists, or practical experience predicts, that the material may cause severe 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. Eye contact may cause significant inflammation with pain. Corneal injury may occur; permanent impairment of vision may result unless treatment is prompt and adequate. Repeated or prolonged exposure to irritants may cause inflammation characterised by a temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/irritation may occur.

Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures.

Chronic

Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.

Exposure to the material may cause concerns for humans owing to possible developmental toxic effects, generally on the basis that results in appropriate animal studies provide strong suspicion of developmental toxicity in the absence of signs of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not a secondary non-specific consequence of other toxic effects.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Principal route of occupational exposure to the gas is by inhalation.

Chronic toluene habituation occurs following intentional abuse (glue sniffing) or from occupational exposure. Ataxia, incoordination and tremors of the hands and feet (as a consequence of diffuse cerebral atrophy), headache, abnormal speech, transient memory loss, convulsions, coma, drowsiness, reduced colour perception, frank blindness, nystagmus (rapid, involuntary eye movements), hearing loss leading to deafness and mild dementia have all been associated with chronic abuse. Peripheral nerve damage, encephalopathy, giant axonopathy electrolyte disturbances in the cerebrospinal fluid and abnormal computer tomographic (CT scans) are common amongst toluene addicts. Although toluene abuse has been linked with kidney disease, this does not commonly appear in cases of occupational toluene exposures. Cardiac and haematological toxicities are however associated with chronic toluene exposures. Cardiac arrhythmia, multifocal and premature ventricular contractions and supraventricular tachycardias are present in 20% of patients who abused toluene-containing paints.

Previous suggestions that chronic toluene inhalation produced human peripheral neuropathy have been discounted. However central nervous system (CNS) depression is well documented where blood toluene exceeds 2.2 mg%. Toluene abusers can achieve transient circulating concentrations of 6.5 %. Amongst workers exposed for a median time of 29 years, to toluene, no subacute effects on neurasthenic complaints and psychometric test results could be established. The prenatal toxicity of very high toluene concentrations has been documented for several animal species and man. Malformations indicative of specific teratogenicity have not generally been found. Neonatal toxicity, described in the literature, takes the form of embryo death or delayed foetal growth and delayed skeletal system development. Permanent damage of children has been seen only when mothers have suffered from chronic intoxication as a result of "sniffing".

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. Chronic exposure by occupational workers, to the lighter hydrocarbons, has been associated with visual disturbances, damage to the central nervous system, peripheral neuropathies (including numbness and paraesthesias), psychological and neuropsychological deficits, bone marrow toxicities (including hypoplasia possibly due to benzene) and hepatic and renal involvement. Chronic dermal exposure to petroleum hydrocarbons may result in dermatitis which produces localised dermatoses. Surface cracking and erosion may also increase susceptibility to infection by microorganisms. One epidemiological study of petroleum refinery workers has reported elevations in standard mortality ratios for skin cancer along with a dose-response relationship indicating an association between routine workplace exposure to petroleum or one of its constituents and skin cancer, particularly melanoma. Other studies have been unable to confirm this finding.

WARNING: Aerosol containers may present pressure related hazards.

<table>
<thead>
<tr>
<th>Aerosol- Black Gal</th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Available</td>
<td>Not Available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>hydrocarbon propellant</th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (mouse) LC50: &gt;15.6&lt;17.9 mm/H^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (mouse) LC50: &gt;15.6&lt;17.9 mm/H^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (mouse) LC50: 410000 ppm2/H^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (mouse) LC50: 410000 ppm2/H^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: &gt;800000 ppm15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: &gt;800000 ppm15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 1354.944 mg/L15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 1355 mg/L15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 1442.738 mg/L15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 1442.738 mg/L15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 1443 mg/L15 min</td>
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<tr>
<td>Inhalation (rat) LC50: 1443 mg/L15 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 570000 ppm15 min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued...
<table>
<thead>
<tr>
<th>Substance</th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>Dermal (rabbit) LD50: 12124 mg/kg</td>
<td>Eye (rabbit): 2mg/24h - SEVERE</td>
</tr>
<tr>
<td>Inhalation (rat) LC50: &gt;26700 ppm/1hr</td>
<td>Eye (rabbit): 0.87 mg - mild</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 49 mg/L/4h</td>
<td>Eye (rabbit): 100 mg/30sec - mild</td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 636 mg/kg</td>
<td>Skin (rabbit): 20 mg/24h - moderate</td>
<td></td>
</tr>
<tr>
<td>Skin (rabbit): 500 mg - moderate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Xylene</th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal (rabbit) LD50: &gt;1700 mg/kg</td>
<td>Eye (human): 200 ppm irritant</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 5000 ppm/4h</td>
<td>Eye (rabbit): 5 mg/24h - SEVERE</td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 4300 mg/kg</td>
<td>Eye (rabbit): 87 mg mild</td>
<td></td>
</tr>
<tr>
<td>Skin (rabbit): 500 mg/24h moderate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Naphtha, petroleum, hydodesulphurised heavy</th>
<th>TOXICITY</th>
<th>IRRITATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal (rabbit) LD50: &gt;1900 mg/kg</td>
<td>Not Available</td>
<td></td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;1900 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;1900 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: &gt;3000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 28000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;19650 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;4300 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;4500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;4500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: &gt;5000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>TOXICITY</td>
<td>IRRITATION</td>
</tr>
<tr>
<td>Dermal (rabbit) LD50: ca.15432.6 mg/kg</td>
<td>Eye (rabbit): 500 mg - SEVERE</td>
<td></td>
</tr>
<tr>
<td>Inhalation (mouse) LC50: 35.5 mg/L/24h</td>
<td>Skin (rabbit): 15 mg/24h mild</td>
<td></td>
</tr>
<tr>
<td>Inhalation (rat) LC50: 55 mg/L/24h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral (rat) LD50: 3500 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

No significant acute toxicological data identified in literature search for Petroleum Hydrocarbon Gases. In many cases, there is more than one potentially toxic constituent in a refinery gas. In those cases, the constituent that is most toxic for a particular endpoint in an individual refinery stream is used to characterize the endpoint hazard for that stream. The hazard potential for each mammalian endpoint for each of the petroleum hydrocarbon gas constituents is dependent upon each petroleum hydrocarbon gas constituent endpoint toxicity values (LD50, LOAEL, etc.) and the relative concentration of the constituent present in that gas. It should also be noted that for an individual petroleum hydrocarbon gas, the constituent characterizing toxicity may be different for different mammalian endpoints, again, being dependent upon the concentration of the different constituents in each, distinct petroleum hydrocarbon gas. All Hydrocarbon Gases Category members contain primarily hydrocarbons (i.e., alkanes and alkenes) and occasionally asphyxiant gases like hydrogen. The inorganic components of the petroleum hydrocarbon gases are less toxic than the C1 - C4 and C5 - C6 hydrocarbon components to both mammalian and aquatic organisms. Unlike other petroleum product categories (e.g. gasoline, diesel fuel, lubricating oils, etc.), the inorganic and hydrocarbon constituents of hydrocarbon gases can be evaluated for hazard individually to then predict the screening level hazard of the Category members. Hydrocarbon Propellant: No acute toxicity LC50 values have been derived for the C1 - C4 and C5 - C6 hydrocarbon (HC) fractions because no mortality was observed at the highest exposure levels tested (~ 5 mg/l) for these petroleum hydrocarbon gas constituents. The order of acute toxicity of petroleum hydrocarbon gas constituents from most to least toxic is: C5-C6 HCs (LC50 > 1063 ppm) > C1-C4 HCs (LC50 > 10,000 ppm) > benzene (LC50 = 13,700 ppm) > butadiene (LC50 = 129,000 ppm) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen). Repeat dose toxicity: With the exception of the asphyxiant gases, repeated dose toxicity has been observed in individual selected petroleum hydrocarbon gas constituents. Based upon LOAEL values, the order of repeated dose toxicity of these constituents from most toxic to the least toxic is: Benzene (LOAEL = 10 ppm) > C1-C4 HCs (LOAEL = 5,000 ppm; assumed to be 150% C4-butene) > C5-C6 HCs (LOAEL = 6,625 ppm) > butadiene (LOAEL = 6,000 ppm) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen). Genotoxicity: In vitro: The majority of the Petroleum Hydrocarbon Gases Category members are negative for in vitro genotoxicity. The exceptions are: benzene and...
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 spongiosa and intracellular oedema of the epidermis.

For toluene:

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

Humans - Toluene ingestion or inhalation can result in severe central nervous system depression, and in large doses, can act as a narcotic. The ingestion of about 60 mL resulted in fatal nervous system depression within 30 minutes in one reported case.

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

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

Toluene can also strip the skin of lipids causing dermatitis.

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

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

Humans - Variable growth, microcephaly, CNS dysfunction, attentional deficits, minor craniofacial and limb abnormalities, and developmental delay were tested for the other petroleum hydrocarbon gas constituents tested for this effect. The asphyxiating gases have not been tested for developmental toxicity. Based on LOAEL and NOAEL values, the order of acute toxicity of these constituents from most to least toxic is:

- Benzene (LOAEL = 20 ppm) > butadiene (NOAEL >1,000 ppm) > CS-C8 hydrocarbon fraction. No developmental toxicity was observed at the highest exposure levels tested for the other petroleum hydrocarbon gas constituents tested for this effect. The asphyxiating gases have not been tested for developmental toxicity. Based on LOAEL and NOAEL values, the order of acute toxicity of these constituents from most to least toxic is:

- Benzene (LOAEL = 300 ppm) > butadiene (NOAEL >6,000 ppm) > CS-C8 hydrocarbons (NOAEL >6,521 ppm) > C1-C4 hydrocarbons (NOAEL = 9,000 ppm; assumed to be 100% isobutane) > asphyxiating gases (hydrogen, carbon dioxide, nitrogen).

Reproductive toxicity: Reproductive effects were induced by only two petroleum hydrocarbon gas constituents, benzene and isobutane (a constituent of the the C1-C4 hydrocarbon fraction). No reproductive toxicity was observed at the highest exposure levels tested for the other petroleum hydrocarbon gas constituents tested for this effect. The asphyxiating gases have not been tested for reproductive toxicity. Based on LOAEL and NOAEL values, the order of reproductive toxicity of these constituents from most to least toxic is:

- Benzene (LOAEL = 600 ppm) > butadiene (NOAEL >6,000 ppm) > CS-C8 hydrocarbons (NOAEL >6,521 ppm) > C1-C4 hydrocarbons (NOAEL = 9,000 ppm; assumed to be 100% isobutane) > asphyxiating gases (hydrogen, carbon dioxide, nitrogen).

The major target organs for the subchronic/chronic toxicity of toluene are the nervous system, liver, and kidney. Depressed immune response can also adversely effect the developing offspring in laboratory animals.

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

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Humans - Variable growth, microcephaly, CNS dysfunction, attentional deficits, minor craniofacial and limb abnormalities, and developmental delay were seen in three children exposed to toluene in utero as a result of maternal solvent abuse before and during pregnancy.

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

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**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Endpoint</th>
<th>Test Duration</th>
<th>Effect</th>
<th>Value</th>
<th>Species</th>
<th>BCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrocarbon propellant</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Polymeric Synthetic Resins (Non – Hazardous)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>toluene</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>xylene</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Encapsulated Pigments (Non – Hazardous)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Additives (Non – Hazardous)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

On the basis of the available evidence concerning properties and predicted or observed environmental fate and behavior, the material may present a danger to the structure and/or functioning of the stratospheric ozone layer.

Harmful 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 the use of the product must be disposed of on site or at approved waste sites.

Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus. For example, there is a decrease in toxicity as alkylation of the naphthalene structure increases. The order of most toxic to least in a study using grass shrimp (Palaemonetes pugio) and brown shrimp (Penaeus azteca) was dimethylnaphthalenes > methylnaphthalenes > 1-naphthylmethane > 2-naphthylmethane.

Hearing loss has been reported in rats (but not guinea pigs) exposed to relatively high exposures (400 ppm and greater) of ethylbenzene. Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus. For example, there is an increase in toxicity as alkylation of the naphthalene structure increases. The order of most toxic to least in a study using grass shrimp (Palaemonetes pugio) and brown shrimp (Penaeus azteca) was dimethylnaphthalenes > methylnaphthalenes > 1-naphthylmethane > 2-naphthylmethane.

Studies conclude that the toxicity of an oil appears to be a function of its di-aromatic and tri-aromatic hydrocarbons, which includes three-ring PAHs and tend to have greater carcinogenic and other chronic impact potential. PAHs in general are considered to be an animal carcinogen, however, the relevance of these findings to humans is currently unknown. Although no reproductive toxicity studies have been conducted on ethylbenzene, repeated-dose studies indicate that the reproductive organs are not a target for ethylbenzene toxicity. Ethylbenzene was negative in bacterial gene mutation tests and in a yeast assay on mitotic recombination.

**NOTE:** Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.

**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

Liver changes, utheral tract, effects on fertility, fetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.

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**NAPHTHA, PETROLEUM, HYDRODESULFURISED HEAVY**

No significant acute toxicological data identified in literature search.

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. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

Ethylbenzene is readily absorbed following inhalation, oral, and dermal exposures, distributed throughout the body, and excreted primarily through urine.

There are two different metabolic pathways for ethylbenzene with the primary pathway being the alpha-oxidation of ethylbenzene to 1-phenylethanol, mostly as the R-enantiomer. The pattern of urinary metabolite excretion varies with different mammalian species. In humans, ethylbenzene is excreted in the urine as mandelic acid and phenylglycolic acids; whereas rats and rabbits excrete hippuric acid and phenacetinic acid as the main metabolites. Ethylbenzene can induce liver enzymes and hence its own metabolism as well as the metabolism of other substances.

Ethylbenzene has a low order of acute toxicity by the oral, dermal or inhalation routes of exposure. Studies in rabbits indicate that ethylbenzene is irritating to the skin and eyes. There are numerous repeat dose studies available in a variety of species, these include: rats, mice, rabbits, guinea pig and rhesus monkeys.

Hearing loss has been reported in rats (but not guinea pigs) exposed to relatively high exposures (400 ppm and greater) of ethylbenzene.

In chronic toxicity/carcinogenicity studies, both rats and mice were exposed via inhalation to 0, 75, 250 or 750 ppm for 104 weeks. In rats, the kidney was the target organ of toxicity, with renal tubular hyperplasia noted in both males and females at the 750 ppm level only. In mice, the liver and lung were the principal target organs of toxicity. In male mice at 750 ppm, lung toxicity was described as alveolar epithelial metaplasia, and liver toxicity was described as hepatocellular syncytial alteration, hyper trophy and mild necrosis; this was accompanied by increased follicular cell hyperplasia in the thyroid. As a result the NOAEL in male mice was determined to be 250 ppm. In female mice, the 750 ppm dose group had an increased incidence of eosinophilic foci in the liver (44% vs 10% in the controls) and an increased incidence in follicular cell hyperplasia in the thyroid gland.

In studies conducted by the U.S. National Toxicology Program, inhalation of ethylbenzene at 750 ppm resulted in increased lung tumors in male mice, liver tumors in female mice, and increased kidney tumors in male and female rats. No increase in tumors was reported at 75 or 250 ppm. Ethylbenzene is considered to be an animal carcinogen, however, the relevance of these findings to humans is currently unknown. Although no reproductive toxicity studies have been conducted on ethylbenzene, repeated-dose studies indicate that the reproductive organs are not a target for ethylbenzene toxicity. Ethylbenzene was negative in bacterial gene mutation tests and in a yeast assay on mitotic recombination.

**NOTE:** Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.

---

**END OF DOCUMENT**
more frequently associated with chronic risks. These risks include cancer and often are the result of exposures to complex mixtures of chronic-risk aromatics (such as PAHs, alkyl PAHs, benzenes, and alkyl benzenes), rather than exposures to low levels of a single compound. Anthracene is a phototoxic PAH. UV light greatly increases the toxicity of anthracene to bluegill sunfish. Benchmarks developed in the absence of UV light may be under-protective, and biological resources in strong sunlight are at more risk than those that are not.

**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>toluene</td>
<td>LOW (Half-life = 28 days)</td>
<td>LOW (Half-life = 4.33 days)</td>
</tr>
<tr>
<td>xylene</td>
<td>HIGH (Half-life = 360 days)</td>
<td>LOW (Half-life = 1.83 days)</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>HIGH (Half-life = 228 days)</td>
<td>LOW (Half-life = 3.57 days)</td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LOW (BCF = 90)</td>
</tr>
<tr>
<td>xylene</td>
<td>MEDIUM (BCF = 740)</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LOW (BCF = 79.43)</td>
</tr>
</tbody>
</table>

### Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>toluene</td>
<td>LOW (KOC = 268)</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LOW (KOC = 517.8)</td>
</tr>
</tbody>
</table>

### SECTION 13 DISPOSAL CONSIDERATIONS

**Waste treatment methods**

- **DO NOT** allow wash water from cleaning or process equipment to enter drains.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Consult State Land Waste Management Authority for disposal.
- Discharge contents of damaged aerosol cans at an approved site.
- Allow small quantities to evaporate.
- **DO NOT** incinerate or puncture aerosol cans.
- Bury residues and emptied aerosol cans at an approved site.

### SECTION 14 TRANSPORT INFORMATION

#### Labels Required

- **Marine Pollutant**: NO
- **HAZCHEM**: 2YE

**Land transport (ADG)**

- **UN number**: 1950
- **Packing group**: Not Applicable
- **UN proper shipping name**: AEROSOLS
- **Environmental hazard**: No relevant data
- **Transport hazard class(es)**:
  - Class : 2.1
  - Subrisk : Not Applicable
- **Special precautions for user**:
  - Special provisions : 63 190 277 327 344
  - Limited quantity : See SP 277

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

- **UN number**: 1950
- **Packing group**: Not Applicable
- **UN proper shipping name**: Aerosols, flammable; Aerosols, flammable (engine starting fluid)
- **Environmental hazard**: No relevant data
- **Transport hazard class(es)**:
  - ICAO / IATA Class : 2.1
  - ICAO / IATA Subrisk : Not Applicable

Continued...
Sea transport (IMDG-Code / GGVSee)

<table>
<thead>
<tr>
<th>UN number</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>AEROSOLS</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>IMDG Class: 2.1, IMDG Subrisk: Not Applicable</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>EMS Number: F-D , S-U, Special provisions: 63 190 277 327 344 959</td>
</tr>
<tr>
<td>Limited Quantities</td>
<td>See SP277</td>
</tr>
</tbody>
</table>

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>toluene</td>
<td>Y</td>
</tr>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>xylene</td>
<td>Y</td>
</tr>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>naphtha, petroleum, hydrodesulphurised heavy</td>
<td>Y</td>
</tr>
<tr>
<td>IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk</td>
<td>ethylbenzene</td>
<td>Y</td>
</tr>
</tbody>
</table>

SECTION 15 REGULATORY INFORMATION

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

- HYDROCARBON PROPELLANT (68476-85-7.) IS FOUND ON THE FOLLOWING REGULATORY LISTS
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)

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

- XYLENE (1330-20-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

- NAPHTHA, PETROLEUM, HYDRODESULPHURISED HEAVY (64742-82-1.) IS FOUND ON THE FOLLOWING REGULATORY LISTS
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
  - International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

- ETHYLZENZENE (100-41-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS
  - Australia Exposure Standards
  - Australia Hazardous Substances Information System - Consolidated Lists
  - Australia Inventory of Chemical Substances (AICS)
  - International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AICS</td>
<td>Y</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>Y</td>
</tr>
</tbody>
</table>
Canada - NDSL
N (toluene; xylene; ethylbenzene; hydrocarbon propellant; naphtha, petroleum, hydrodesulfurised heavy)

China - IECSC
Y

Europe - EINEC / ELINCS / NLP
Y

Japan - ENCS
Y

Korea - KECI
Y

New Zealand - NZIoC
Y

Philippines - PICCS
Y

USA - TSCA
Y

Legend:
Y = All ingredients are on the inventory
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrocarbon propellant</td>
<td>68476-85-7, 68476-86-8.</td>
</tr>
</tbody>
</table>

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

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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