PRODUCT NAME : MECHANICAL PUMP OIL - 45

1. Product and Company Identification

Product name: Edwards No 45 Oil
Synonyms: Edwards Q45

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>% Weight</th>
<th>CAS No</th>
<th>Hazard class*</th>
<th>Risk phrase*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalphaoletfin</td>
<td>100</td>
<td>68037-01-4</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as “Not applicable”.

3. Hazards Identification

**EMERGENCY OVERVIEW**

This oil, when properly handled according to good working and hygienic practices, is not dangerous to human health and the environment. Incomplete combustion of the oil may produce carbon monoxide.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: None expected. The oil is not an irritant.

Skin Effects: None expected. The oil is not a primary irritant or corrosive.

Ingestion/Oral Effects: The oil is non-toxic by ingestion.

Inhalation Effects: The oil is non-hazardous by inhalation under normal conditions of use.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.
4. First Aid Measures

Eyes: Flush with water. If irritation occurs, seek medical attention.

Skin: Wash with soap and water. If irritation occurs, seek medical attention.

Ingestion/Oral: Do not induce vomiting. Seek medical attention. Wash out small amounts of oil in the mouth.

Inhalation: Remove to fresh air. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical attention.

Other Information: None.

5. Fire Fighting Measures

Extinguishing Media: Water fog, chemical foam or carbon dioxide. Direct water stream may cause violent frothing.

Fire and Explosion Hazard: Incomplete combustion may produce carbon monoxide.

Special Protective Equipment for Fire Fighters: Fire fighters should wear a self-contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode and full turn out gear when there is a possibility of fumes or hazardous decomposition products.

For Flammability Properties - see Section 9

6. Accidental Release Measures

Small spills may be wiped up with a rag.

In the case of a large spill:

- Prevent contact of the spilled oil with hot surfaces and flames.
- Wear personal protective clothing (see Section 8 Exposure Controls and Personal Protection).
- Recover the spilled oil by absorbing with earth, sand or sawdust and collecting in a suitable container. Safely dispose of the recovered oil and absorbent (refer to Section 13).
- Wash the area of the spill to prevent slip hazard.

NFPA Hazard codes | HMIS Hazard codes | Rating System
--- | --- | ---
Health | 0 | Health | 0 | 0 = No Hazard
Flammability | 1 | Flammability | 1 | 1 = Slight Hazard
Instability | 0 | Reactivity | 0 | 2 = Moderate Hazard
| | | | 3 = Serious Hazard
| | | | 4 = Severe Hazard
7. Handling and Storage

Handling: Wear protective clothing when required. Do not drink or eat during handling. Do not smoke in working areas. Avoid heating to temperatures above 200 °C/392 °F.

Storage: Keep away from heat sources and incompatible materials (see Section 10). Store in its original containers in a well-ventilated, dry area.

8. Exposure Controls/Personal Protection

Exposure Limits:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH - TLV -</th>
<th>OSHA - PEL</th>
<th>Occupational Exposure Limits EH40 (UK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyalphaolefin</td>
<td>5 mg/m³ - 8 H TWA *</td>
<td>5 mg/m³ - 8 H TWA (as oil mist, mineral)</td>
<td>5 mg/m³ - 8 H TWA (as oil mist, mineral)</td>
</tr>
<tr>
<td></td>
<td>10 mg/m³ - STEL (as oil mist, mineral)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* As sampled by a method which does not collect vapour.

Personal Protection:

Engineering Measures: Ensure good ventilation under all working conditions. Ventilation must be sufficient to ensure that oil mist is kept below the level indicated above. Provide eye wash facilities.

Respiratory Protection: None required under normal conditions of use. Wear suitable breathing apparatus where significant amounts of oil mist are present.

Hand/Skin Protection: Wear gloves made of oil-impermeable rubber.

Eye/Face Protection: Wear protective glasses/goggles with side shields in case of splashing.

Hygiene Measures: Practice good workplace hygiene. Do not eat, drink or smoke whilst using the oil. Wash hands after use.

Other/General Protection: None.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odour</td>
<td>Colourless, odourless liquid</td>
</tr>
<tr>
<td>Boiling point</td>
<td>133 / 271 °C/°F</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>No data available</td>
</tr>
<tr>
<td>Volatile Content by Volume</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 264 / 507 °C/°F</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.83</td>
</tr>
<tr>
<td>Vapour Pressure (mbar)</td>
<td>&lt; 0.0013 @ 25 °C</td>
</tr>
<tr>
<td>Vapour Pressure (Torr)</td>
<td>&lt; 0.0001 @ 77 °F</td>
</tr>
</tbody>
</table>

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10. Stability and Reactivity

Stability: Stable.

Material/Conditions to Avoid: Strong oxidisers. Temperatures > 200 °C / 392 °F.

Hazardous Decomposition: Incomplete combustion may produce carbon monoxide.

Hazardous Polymerisation: Hazardous polymerisation is unlikely to occur.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 3 Hazards Identification.

Animal data:

LD50 value: Acute oral: > 5.0 g/kg (male and female sprague-dawley rats)

LC50 value: Inhalation: 4.68 mg/l (1 h) (rats). Note that this is an estimated value for a similar compound and is considered toxic. In order to determine this value, an extremely heavy mist of oil was required. The heavy mists at the necessary concentration made visibility difficult and would be difficult to work in for a period of time. It was reported that histopathological changes may compound related toxicity effect.

Carcinogenicity:

No known tumorigenic, reproductive, carcinogenic or mutagenic effects.

12. Ecological Information

When used/disposed of correctly, no adverse environmental effects are foreseen. The oil is non-volatile and insoluble in water. The oil is slowly biodegradable in aerobic conditions.

13. Disposal Considerations

Dispose of waste oil and used containers in accordance with all local and national requirements.

14. Transport Information

This product is not classified as dangerous under transport regulations.

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>EUROPEAN</th>
<th>CANADIAN TDG</th>
<th>UNITED STATES DOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Identification Number</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Shipping Label</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : No
Risk Phrases : Not applicable
Safety Phrases : Not applicable
Symbols : None

United States Regulatory Information

All ingredients contained in this product are included on the EPA TSCA Chemical Substance Inventory.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

WHMIS Classification: Not Applicable.
All ingredients contained in this product are included on the Canadian DSL.
16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:
- Inland Vacuum Industries "Inland 45" Material Safety Data Sheet. Revision Date : January 2005.

Glossary:
- ACGIH - American Conference of Governmental Industrial Hygienists;
- ANSI - American National Standards Institute;
- Canadian TDG - Canadian Transportation of Dangerous Goods;
- CAS - Chemical Abstracts Service;
- Chemtrec - Chemical Transportation Emergency Center (US);
- CHIP - Chemical (Hazard Information and Packing);
- DSL - Domestic Substances List;
- EH40 (UK) - HSE Guidance Note EH40 Occupational exposure limits;
- EPA - Environmental Protection Agency;
- EPCRA - Emergency Planning and Community Right-to-Know Act;
- HMIS - Hazardous Material Information Service;
- LC - Lethal Concentration;
- LD - Lethal Dose;
- NFPA - National Fire Protection Association;
- OSHA - Occupational Safety and Health Administration,
- US department of Labour;
- PEL - Permissible exposure limit;
- SARA (Title III) - Superfund Amendments and Reauthorization Act;
- SARA 313 - Superfund Amendments and Reauthorization Act, Section 313;
- SCBA - Self-Contained Breathing Apparatus;
- STEL - Short Term Exposure Limit;
- TLV - threshold limit value;
- TSCA - Toxic Substances Control Act Public Law 94-469;
- TWA - Time-Weighted Average;
- US DOT - US Department of Transportation;

Revisions:

Nov 2007 - Data Sheet updated to reflect the latest supplier safety information.

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