1. Identification of the substance/preparation and of the company/undertaking

Product name: Superedge 4
SDS #: UK-7098, PT-453655
Product Use: Metalworking fluid - soluble.
Supplier: Castrol (U.K.) Limited
Wakefield House
Pipers Way
Swindon
Wiltshire, SN3 1RE
United Kingdom
Tel.: +44 (0)1793 512712
Fax.: +44 (0)1793 486083

EMERGENCY TELEPHONE NUMBER
+44 (0)1793 512712

2. Composition/information on ingredients

Highly refined mineral oil, emulsifiers and additives.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS no.</th>
<th>%</th>
<th>EINECS / ELINCS.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>fatty acids, tall-oil, potassium salts</td>
<td>61790-44-1</td>
<td>1 - 5</td>
<td>263-136-1</td>
<td>Xi; R36/38</td>
</tr>
<tr>
<td>naphthenic acids, potassium salts</td>
<td>66072-08-0</td>
<td>1 - 5</td>
<td>266-120-2</td>
<td>Xi; R36/38</td>
</tr>
<tr>
<td>Sulfonic acids, petroleum, sodium salts</td>
<td>68608-26-4</td>
<td>1 - 5</td>
<td>271-781-5</td>
<td>Xi; R41</td>
</tr>
<tr>
<td>N,N'-Methylenebismorpholine</td>
<td>5625-90-1</td>
<td>1 - 5</td>
<td>227-062-3</td>
<td>Xi; R20/21/22</td>
</tr>
<tr>
<td>alcohols, C11-14-iso-,C13-rich</td>
<td>68526-86-3</td>
<td>1 - 5</td>
<td>271-235-6</td>
<td>Xi; R36/37/38</td>
</tr>
<tr>
<td>Alcohol ethoxylate</td>
<td>68131-39-5</td>
<td>1 - 5</td>
<td>500-195-3</td>
<td>Xi; R41</td>
</tr>
<tr>
<td>amides, tall oil fatty, N,N-bis(hydroxyethyl)</td>
<td>68155-20-4</td>
<td>1 - 5</td>
<td>268-949-5</td>
<td>Xi; R38, 41</td>
</tr>
<tr>
<td>2-benzothiazolethiol,sodium salt</td>
<td>2492-26-4</td>
<td>0.1 - 1</td>
<td>219-660-8</td>
<td>C; R34</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the R Phrases declared above

Occupational Exposure Limit(s), if available, are listed in Section 8

3. Hazards identification

This preparation is classified as dangerous according to Directive 1999/45/EC as amended and adapted.
Not classified as dangerous when diluted below 5%.

Physical/chemical Hazards: Not classified as dangerous.
Human health hazards: Irritating to eyes.
Environmental hazards: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Effects and symptoms

- Eyes: Causes eye irritation.
- Skin: Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
- Inhalation: Vapors and aerosol can produce mucus membrane, nose and throat irritation.
- Ingestion: Ingestion may cause gastrointestinal irritation and diarrhoea.

4. First-aid measures

Eye Contact: In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Obtain medical attention immediately.

Skin contact: Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
5. Fire-fighting measures

Extinguishing Media
Suitable
In case of fire, use water fog, foam, dry chemical or CO2 extinguisher or spray. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Not Suitable
Do not use water jet.

Hazardous decomposition products
These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), sulphur oxides (SO2, SO3, etc.), halogenated compounds, hydrogen chloride. Some metallic oxides.

Unusual fire/explosion Hazards
This material is not explosive as defined by established regulatory criteria.

Fire fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal Precautions
Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).

Environmental precautions and cleanup methods
If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.

Personal Protection in Case of a Large Spill
Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling
Avoid contact with eyes. Avoid breathing vapour or mist. Avoid prolonged or repeated contact with skin. Avoid contact of spilled material and runoff with soil and surface waterways. Wash thoroughly after handling.

Storage
Keep container tightly closed. Protect from freezing. Store away from direct sunlight.

8. Exposure controls/personal protection

Ingredient Name
Highly refined mineral oil

Occupational Exposure Limits
EH40-OES (United Kingdom (UK)).
TWA: 5 mg/m³ 8 hour(s). Form: Oil mist, mineral
STEL: 10 mg/m³ 15 minute(s). Form: Oil mist, mineral

This product contains a preservative that may release trace amounts of formaldehyde during use.

Control Measures
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Hygiene measures
Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Personal protective equipment
Respiratory system
None required; however, use of adequate ventilation is good industrial practice.

Skin and body
Wear protective clothing if prolonged or repeated contact is likely.

Hands
Wear protective gloves if prolonged or repeated contact is likely. Consult your local supplier of personal protective clothing regarding the choice of material.

Eyes
Avoid contact with eyes. Safety glasses with side shield or chemical goggles.

9. Physical and chemical properties

Flash point
>100 °C (CLOSED CUP)

Pour Point
<0 °C

Colour
Brown.

Odour
Slight.

Odour threshold
Not available.

Physical state
Liquid.

Boiling point / range
>100 °C

Density
<1 g/cm³ at 20 °C
10. Stability and reactivity

Conditions to Avoid
- High temperatures.

Incompatibility with Various Substances
- Reactive with oxidizing agents.
- Slightly reactive to reactive with acids.

Hazardous Polymerization
- Will not occur.

11. Toxicological information

Chronic toxicity
- Carcinogenic effects: No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC) or the European Commission (EC).

12. Ecological information

Persistence/degradability
- Not readily biodegradable.

Mobility
- Liquid. Emulsifies in water.

Environmental hazards
- Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

13. Disposal considerations

Disposal Consideration / Waste information
- Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities.

Hazardous Waste
- This product is listed as Hazardous by the EU Directive on hazardous waste. Dispose of according to all national and local applicable regulations.

14. Transport information

Not classified as hazardous for transport (ADR, RID, UN, IMO, IATA/ICAO).

15. Regulatory information

Label Requirements
- Hazard symbol(s)
  - Irritant
  - Dangerous for the environment.

Risk Phrases
- R36 - Irritating to eyes.
- R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
- S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

EU Regulations
- Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.

Other Regulations
- AUSTRALIAN INVENTORY (AICS): Not determined.
- CANADA INVENTORY (DSL): Not determined.
- CHINA INVENTORY (IECS): Not determined.
- EC INVENTORY (EINECS): In compliance.
- JAPAN INVENTORY (ENCS): Not determined.
16. Other information

Full text of R-phrases appearing in section 2

R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R34- Causes burns.
R36/37/38- Irritating to eyes, respiratory system and skin.
R36/38- Irritating to eyes and skin.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.
R50- Very toxic to aquatic organisms.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

HISTORY

Date of issue 06/12/2002.
No Previous Validation.

Prepared by Product Stewardship

Notice to Reader

The data and advice given apply when the product is sold for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. You should not use the product other than for the stated application or applications without seeking advice from us.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet.

If you are an employer, it is your duty to tell your employees and others who may be affected of any hazards described in this sheet and of any precautions which should be taken.

Further copies of this Safety Data Sheet may be obtained from Castrol.