SAFETY DATA SHEET
SURFACE MOUNT FLUX PENS

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME: SURFACE MOUNT FLUX PENS
PRODUCT NO.: SMF
ESMF12P
EEP000
ZE
APPLICATION: Manufacture of electrical equipment
SUPPLIER: ELECTROLUBE. A division of HK WENTWORTH LTD
ASHBY PARK, COALFIELD WAY, ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JR UNITED KINGDOM
+44 (0)1530 419600
+44 (0)1530 416640
info@hwco.uk

2 HAZARDS IDENTIFICATION

Highly flammable.
Vapours may cause drowsiness and dizziness.
Irritating to eyes.
May cause sensitisation by skin contact.

3 COMPOSITION/INFORMATION ONINGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>EC No.</th>
<th>CAS-No.</th>
<th>Content %</th>
<th>Classification (67/548/EEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>200-661-7</td>
<td>67-63-0</td>
<td>80-100%</td>
<td>F;R11 Xi;R36 R67</td>
</tr>
<tr>
<td>ROSIN</td>
<td>232-475-7</td>
<td>8050-09-7</td>
<td>1-5%</td>
<td>R43</td>
</tr>
</tbody>
</table>

The Full Text for all R-Phrases is Displayed in Section 16

COMPOSITION COMMENTS
Ingredients not listed are classified as non-hazardous or at a concentration below reportable levels

4 FIRST-AID MEASURES

NOTES TO THE PHYSICIAN
Treat symptomatically

INHALATION
Not relevant.

INGESTION
DO NOT INDUCE VOMITING! Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Rinse mouth thoroughly. Get medical attention.

SKIN CONTACT
Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.

EYE CONTACT
Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.
SURFACE MOUNT FLUX PENS

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

SPECIAL FIRE FIGHTING PROCEDURES
Move container from fire area if it can be done without risk. Use water to keep fire exposed containers cool and disperse vapours. Dike and collect extinguishing water.

SPECIFIC HAZARDS
Oxides of: Carbon.

PROTECTIVE MEASURES IN FIRE
Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS
Follow precautions for safe handling described in this safety data sheet. Do not smoke, use open fire or other sources of ignition. Take precautionary measures against static discharges. Provide adequate ventilation.

ENVIRONMENTAL PRECAUTIONS
Do not discharge into drains, water courses or onto the ground.

SPILL CLEAN UP METHODS
Absorb with inert, damp, non-combustible material, then flush area with water. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS
Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Avoid inhalation of vapours and spray mists.

STORAGE PRECAUTIONS
Keep containers tightly closed. Keep in original container. Keep away from heat, sparks and open flame.

STORAGE CLASS
Flammable liquid storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA - 8 Hrs</th>
<th>STEL - 15 Min</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>WEL</td>
<td>400 ppm</td>
<td>999 mg/m3</td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

ENGINEERING MEASURES
Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapours.

RESPIRATORY EQUIPMENT
No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

HAND PROTECTION
Use protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Butyl rubber gloves are recommended.

EYE PROTECTION
Wear approved, tight fitting safety glasses where splashing is probable.

OTHER PROTECTION
Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact.

HYGIENE MEASURES
DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. When using do not eat, drink or smoke. Eating, smoking and water fountains prohibited in immediate work area.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Liquid

BOILING POINT (°C) 82 (179.6 F)
### SURFACE MOUNT FLUX PENS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Density</td>
<td>0.820 @ 20 °C (68 F)</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>4.4 kPa @ 20 °C (68 F)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>@ °C</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>12 (53.6 F) OC (Open cup).</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>425</td>
</tr>
<tr>
<td>Temperature (°C)</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit - Lower(%)</td>
<td>2.30</td>
</tr>
<tr>
<td>Flammability Limit - Upper(%)</td>
<td>12</td>
</tr>
</tbody>
</table>

#### 10 STABILITY AND REACTIVITY

**Stability**

Stable under normal temperature conditions and recommended use.

**Conditions to Avoid**

Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time.

**Hazardous Polymerisation**

Will not polymerise.

**Materials to Avoid**

Strong oxidising substances.

**Hazardous Decomposition Products**

Oxides of: Carbon.

#### 11 TOXICOLOGICAL INFORMATION

**Inhalation**

May cause irritation to the respiratory system. Vapours may cause drowsiness and dizziness.

**Ingestion**

May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

**Skin Contact**

Irritating to skin. Prolonged contact may cause dryness of the skin. Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

**Eye Contact**

Irritating to eyes.

**Route of Entry**

Skin absorption. Ingestion. Skin and/or eye contact.

**Target Organs**

Central nervous system  Eyes  Respiratory system, lungs  Skin

**Medical Symptoms**


#### 12 ECOLOGICAL INFORMATION

**Ecotoxicity**

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Mobility**

The product is soluble in water.

**Bioaccumulation**

Will not bio-accumulate.

**Degradability**

The product is biodegradable.

**Acute Fish Toxicity**

Not considered toxic to fish.

#### 13 DISPOSAL CONSIDERATIONS
SURFACE MOUNT FLUX PENS

GENERAL INFORMATION
Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Do not puncture or incinerate even when empty. Rags and the like, moistened with flammable liquids, must be discarded into designated fireproof bucket.

DISPOSAL METHODS
Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>PROPER SHIPPING NAME</th>
<th>ISOPROPANOL (ISOPROPYL ALCOHOL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPER SHIPPING NAME</td>
<td>CONSUMER COMMODITY</td>
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<tr>
<td>ENVIRONMENTALLY</td>
<td>No.</td>
</tr>
<tr>
<td>HAZARDOUS SUBSTANCE/MARINE POLLUTANT</td>
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<tr>
<td>UN NO. ROAD</td>
<td>1219</td>
</tr>
<tr>
<td>ADR CLASS NO.</td>
<td>3</td>
</tr>
<tr>
<td>ADR CLASS</td>
<td>Class 3: Flammable liquids.</td>
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<tr>
<td>ADR PACK GROUP</td>
<td>II</td>
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<tr>
<td>TUNNEL RESTRICTION CODE</td>
<td>(D/E)</td>
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<tr>
<td>HAZARD No. (ADR)</td>
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<tr>
<td>ADR LABEL NO.</td>
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<tr>
<td>HAZCHEM CODE</td>
<td>•2YE</td>
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<tr>
<td>UN NO. SEA</td>
<td>1219</td>
</tr>
<tr>
<td>IMDG CLASS</td>
<td>3</td>
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<tr>
<td>IMDG PACK GR.</td>
<td>II</td>
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<tr>
<td>EMS</td>
<td>F-E, S-D</td>
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<tr>
<td>UN NO. AIR</td>
<td>1219</td>
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<tr>
<td>AIR CLASS</td>
<td>3</td>
</tr>
<tr>
<td>AIR PACK GR.</td>
<td>II</td>
</tr>
</tbody>
</table>

15 REGULATORY INFORMATION

LABELLING

- Irritant
- Highly Flammable

CONTAINS
ROSN

RISK PHRASES
R11 Highly flammable.
R36 Irritating to eyes.
R43 May cause sensitisation by skin contact.
R67 Vapours may cause drowsiness and dizziness.

SAFETY PHRASES
S9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition - No smoking.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 Wear suitable gloves.
SURFACE MOUNT FLUX PENS

S51 Use only in well-ventilated areas.
S60 This material and its container must be disposed of as hazardous waste.

UK REGULATORY REFERENCES
Chemicals (Hazard Information & Packaging) Regulations.
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.

ENVIRONMENTAL LISTING
EU DIRECTIVES
System of specific information relating to Dangerous Preparations. 2001/58/EC.
Dangerous Substance Directive 67/548/EEC.
Dangerous Preparations Directive 1999/45/EC.

APPROVED CODE OF PRACTICE
Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES
Workplace Exposure Limits EH40.

16 OTHER INFORMATION

REVISION COMMENTS
Revised in accordance with CHIP3 and EU Directives 1999/45/EC and 2001/58/EC

ISSUED BY
Helen O'Reilly

REV. NO./REPL. SDS GENERATED
5
10561

RISK PHRASES IN FULL
R11 Highly flammable.
R36 Irritating to eyes.
R43 May cause sensitisation by skin contact.
R67 Vapours may cause drowsiness and dizziness.

DISCLAIMER
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.