Product Number: 42
HW Superb Clear Top Coat
(Matt, Satin and Gloss)

Description:
A tough long lasting extra hard wearing solvent based top coat that offers a superb robust and easy to clean surface. This coating offers excellent UV protection.

This product comprises of the following materials and therefore is supported by Health & Safety Data Sheets:

- (Appendix 49a) HW Superb Gloss
- (Appendix 49b) HW Superb Matt
- (Appendix 49c) HW Superb Satin

*The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user’s own assessment of workplace risk as required by other health and safety legislation.
1. IDENTIFICATION OF THE PREPARATION AND COMPANY

1.1 Product Identifier
PRODUCT NAME: HW Superb Gloss

1.2 Relevant identified uses of the substance or mixture and uses advised against
PRODUCT USE: Consumer applications, Professional applications
USE OF THE SUBSTANCE/MIXTURE: Coating

1.3 Details of the supplier of the safety data sheet
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barfrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com

1.4 Emergency telephone number
SUPPLIER TELEPHONE NUMBER: 01304 842555 (Office hours only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
PRODUCT DEFINITION: Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
Skin Sens. 1, H317
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended
See Section 16 for the full text of the H statements declared above
See Section 11 for more detailed information on health effects and symptoms

2.2 Label elements
Hazard pictograms:

Signal word: Warning
Hazard statements: Flammable liquid and vapour
May cause an allergic skin reaction

Precautionary statements
General: Keep out of reach of children. If medical advice is needed, have product container or label at hand
Prevention: Wear Protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid breathing vapour
Response: IF ON SKIN: Wash with plenty of soap & water. If skin irritation or rash occurs: Get medical attention
Storage: Store in a well-ventilated place. Keep cool.
Disposal: Dispose of contents & container in accordance with all local, regional, national & international regulations
Hazardous ingredients: 2-butanone oxime. 4,5-dichloro-2-octyl-2H-isothiazol-3-one
Supplemental label elements: Not applicable
Annex xvii – restrictions on the manufacture, placing on the market and use of certain Dangerous substances, mixtures and articles: Not applicable
Special packaging requirements
Containers to be fitted with child-resistant fastenings: Not applicable
Tactile warning of danger: Not applicable

2.3 Other hazards
Other hazards which do not result in classification: Prolonged or repeated contact may dry skin and cause irritation.
### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient Name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>REACH#: 01-2119979088-21 EC: 245-018-1 CAS: 22464-99-9</td>
<td>≤1.0</td>
<td>Repr. 2, H361fd (Fertility and unborn child) (oral)</td>
<td>[1][2]</td>
</tr>
<tr>
<td>2-butane oxide</td>
<td>REACH#: 01-2119539477-28 EC: 202-496-6 CAS: 96-29-7 Index: 616-014-00-0</td>
<td>&lt;1.0</td>
<td>Acute Tox. 4, H312 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351</td>
<td>[1]</td>
</tr>
<tr>
<td>4,5,2-octyl-2H-isothiazol-3-one</td>
<td>EC: 264-643-8 CAS: 64399-81-5</td>
<td>&lt;0.10</td>
<td>Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1) See Section 16 for the full text of the H statements declared above.</td>
<td>[1]</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8
SUB codes represent substance without registered CAS numbers.

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye contact:** Remove contact lenses. Irrigate copiously with clean, fresh water holding the eyelids apart for at least 10 minutes. Seek immediate medical advice.

**INHALATION:** Remove to fresh air, keep patient warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel

**Skin contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or a recognized skin cleaner. DO NOT USE SOLVENT OR THINNERS.

**Ingestion:** If accidentally swallowed seek medical advice immediately and show the container or label. Keep person warm and at rest. DO NOT induce vomiting.

**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

**Eye contact:** No known significant effects or critical hazards

**Inhalation:** No known significant effects or critical hazards

**Skin contact:** Defatting to the skin. May cause dryness and irritation. May cause an allergic skin reaction

**Ingestion:** No known significant effects or critical hazards

**Over-exposure signs/symptoms**

**Eye contact:** No specific data

**Inhalation:** No specific data

**Skin contact:** Adverse symptoms may include irritation, redness, dryness, cracking.

**Ingestion:** No specific data

4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician:** Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments:** No specific treatment.

5. **FIRE-FIGHTING MEASURES**

5.1 Extinguishing Media

**SUITABLE EXTINGUISHING MEDIA:** Use dry chemical, CO2, water spray (fog) or foam

**UNSUITABLE EXTINGUISHING MEDIA:** Do not use water jet.

5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture:** Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard

**Hazardous combustion products:** No specific data

5.3 Advice for firefighters

**Special precautions for firefighters:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for firefighters:** Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots and gloves) confirming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. **ACCIDENTAL RELEASE MEASURES**

6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spill material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders:** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel.”

6.2 Environmental precautions

**Precautions**

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

6.3 Methods and material for containment and cleaning up

**Small spill**

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill**

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.
7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s)

7.1 Precautions for safe handling
Protective measures
- Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside.

Advice on general occupational hygiene
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities
- Storage temperature 5 to 25°C (41 to 77°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)
Recommendations
- Not available
Industrial sector specific solutions
- Not available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s)

8.1 Control parameters
Occupational exposure limits

<table>
<thead>
<tr>
<th>Product / ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>EH40/2005 WELs (United Kingdom (UK). 12/2011). STEL: 10 mg/m³, (as Zr) 15 minutes TWA: 5 mg/m³, (as Zr) 8 hours</td>
</tr>
</tbody>
</table>

Recommended monitoring
- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for
the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

<table>
<thead>
<tr>
<th>DNELS</th>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11 n-alkalines, isoalkanes cyclics, &lt;2% aromatics</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>208 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>871 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>185 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term oral</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>9 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>3.33 mg/m³</td>
<td>Workers</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>1.3 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>2.5 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2.7 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2 mg/m³</td>
<td>Consumers</td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>0.75 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>1.5 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PNECs</th>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Compartment Detail</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butanone oxime</td>
<td>-</td>
<td>Fresh water</td>
<td>0.256 mg/l</td>
<td>Assessment Factors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage treatment plant</td>
<td>177 mg/l</td>
<td>Assessment Factors</td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures
Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Chemical splash goggles

Skin protection
Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class or 2 or higher (breakthrough time greater that 30 minutes according to EN374) is recommended.

Gloves: Butyl rubber

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Filter type: organic vapour (Type A) and particulate filter P3.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear</td>
</tr>
<tr>
<td>Odour</td>
<td>Hydrocarbon [slight]</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>May start to solidify at the following temperature: -54°C (-65.2°F). This is based on data for the following ingredient: Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics. Weighted average: -71.46°C (-96.6°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>145°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Closed cup: 39°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Highest known value: 0.14 (Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics). Weighted average: 0.13 compared with butyl acetate</td>
</tr>
<tr>
<td>Material supports combustion</td>
<td>Yes</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Liquid</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Greatest known value: Lower 0.6% Upper 7% (Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Highest known value: 0.3 kPa (2.3mm Hg) (at 20°C) (Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics) Weighted Average: 0.24 kPa (1.8 mm Hg) (at 20°C)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Highest known value: 4.5 (Air = 1) (Distillates(petroleum) hydrotreated light). Weighted average: 4.5 (Air = 1)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.91</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in the following materials: cold water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Lowest known value: &gt;230°C (&gt;446°F) (Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Stable under recommended storage and handling conditions (see Section 7)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Kinematic (room temperature): &gt;4cm²/s</td>
</tr>
<tr>
<td></td>
<td>Kinematic (40°C): &gt;2.1cm²/s</td>
</tr>
<tr>
<td>Viscosity</td>
<td>60 -100 s (ISO 6mm)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product does not present an explosion hazard</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Product does not present an explosion hazard</td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

10. STABILITY AND REACTIVITY

10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability: The product is stable
10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reaction will not occur.

10.4 Conditions to avoid: When exposed to high temperature may produce hazardous decomposition products. Refer to protective measures listed in Sections 7 & 8.

10.5 Incompatible materials: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics Naphtha (petroleum), Hydrotreated heavy:</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% Aromatics</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6 g/kg</td>
<td>4 hours</td>
</tr>
<tr>
<td>2-ethyl/hexanoic acid, zirconium salt</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td>4.5-dichloro-2-octyl-2H-isothiazol-3-one</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>8500 mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>Naphtha (petroleum), Hydrotreated heavy:</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>8500 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>LD 50 Dermal</td>
<td>Rabbit</td>
<td>3.9g/kg</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2.2g/kg</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td></td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Conclusion/Summary: Not available

**Sensitisation**

Conclusion/Summary: Not available

**Mutagenicity**

Conclusion/Summary: Not available

**Carcinogenicity**

Conclusion/Summary: Not available

**Reproductive toxicity**

Conclusion/Summary: Not available

**Teratogenicity**

Conclusion/Summary: Not available

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Narcotic effects</td>
</tr>
<tr>
<td>4.5-dichloro-2-octyl-2H-isothiazol-3-one</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available
### Aspiration hazard

<table>
<thead>
<tr>
<th>Product / ingredients name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Naphtha (petroleum), Hydrotreated heavy: Nota(s) P</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure – Not available

### Potential acute health effects

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.
- **Eye contact**: No known significant effects or critical hazards.

### Symptoms related to the physical chemical and toxicological characteristics

- **Inhalation**: No specific data
- **Ingestion**: No specific data
- **Skin contact**: Adverse symptoms may include the following:
  - Irritation
  - Dryness
  - Cracking
- **Eye contact**: No specific data

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- **Potential immediate effects**: Not available
- **Potential delayed effects**: Not available

#### Long term exposure

- **Potential immediate effects**: Not available
- **Potential delayed effects**: Not available

### Potential chronic health effects

Not available

### Conclusion/Summary

- **General**: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.
- **Other information**: Not available

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No. 1272/2008 and is classified for toxicological hazards accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated Occupational Exposure Limit may result in adverse health effects such as irritation of the mucous membrane and respiratory system and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2-butanonoxime, 4,5-dichloro-2-octyl-2H-isothiazol-3-one. May produce an allergic reaction.

---

### 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

**Conclusion/Summary**: Not available.
12.2 Persistence and degradability:
Conclusion/Summary: Not available

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>0.63</td>
<td>10 to 2500</td>
<td>High</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td></td>
<td>5.01</td>
<td>Low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition</th>
<th>Coefficient (Koc)</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>: Not available</td>
<td>: Not available</td>
<td>: Not available</td>
</tr>
</tbody>
</table>

12.5 Results of PBT abd vPvB assessment

PBT: Not applicable
vPvB: Not applicable

12.6 Other adverse effects: No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s)

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protections and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Yes

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11*</td>
<td>Waste paint and varnish containing organic solvents or other dangerous substances</td>
</tr>
</tbody>
</table>

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

<table>
<thead>
<tr>
<th>Type of packaging</th>
<th>European waste catalogue (EWC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>15 01 04  metallic packaging</td>
</tr>
</tbody>
</table>

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1263</td>
<td></td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td>14.2 proper shipping name</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5 environmental hazards</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable

15. REGULATORY INFORMATION

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

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV – List of substances subject to authorisation
Annex XIV
None of the components are listed.

Substances of very high concern
None of the components are listed
Annex XVII – Restrictions
Not applicable on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

VOC for Ready-for-Use Mixture
IIA/e. Interior/exterior trim varnishes and woodstains, including opaque woodstains. EU Limit values: 400g/l (2010)
This product contains a maximum of 400g/l VOC

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Carcinogenic effects</th>
<th>Mutagenic effects</th>
<th>Developmental effects</th>
<th>Fertility effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butane oxide oxime</td>
<td>- Carc. 2, H351</td>
<td>-</td>
<td>-</td>
<td>- Repr. 2, H361d (Oral)</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, Zirconium salt</td>
<td>-</td>
<td>-</td>
<td>- Repr. 2, H361d (Oral)</td>
<td></td>
</tr>
</tbody>
</table>

Seveso Directive
This product is controlled under the Seveso Directive

Danger criteria

Category
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
6: Flammable (R10)

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out.
16. OTHER INFORMATION

**Abbreviations and acronyms:**
- **ATE** = Acute Toxicity Estimate
- **CLP** = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- **DNEL** = Derived No Effect Level
- **EUH statement** = CLP-specific Hazard statement
- **PNEC** = Predicted No Effect Concentration
- **RRN** = REACH Registration Number

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3 H226</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**Full text of abbreviated H. Statements**
- **H226** Flammable liquid and vapour
- **H302** Harmful if swallowed
- **H304** May be fatal if swallowed and enters airways
- **H312** Harmful in contact with skin
- **H314** Causes severe skin burns and eye damage
- **H317** May cause an allergic skin reaction
- **H318** Causes serious eye damage
- **H330** Fatal if inhaled
- **H335** May cause respiratory irritation
- **H336** May cause drowsiness or dizziness
- **H351** Suspected of causing cancer
- **H361 fd (Oral)** Suspected of damaging fertility if swallowed. Suspected of damaging the unborn child if swallowed
- **H400** Very toxic to aquatic life
- **H410** Very toxic to aquatic life with long lasting effects.

**Full text of classifications [CLP/GHS]**
- **Acute Tox. 2, H330** ACUTE TOXICITY (inhalation) – Category 2
- **Acute Tox. 4, H302** ACUTE TOXICITY (oral) – Category 4
- **Acute Tox. 4, H312** ACUTE TOXICITY (dermal) – Category 4
- **Aquatic Acute 1, H400** ACUTE AQUATIC HAZARD – Category 1
- **Aquatic Chronic 1, H410** LONG TERM AQUATIC HAZARD – Category 1
- **Asp. Tox. 1, H304** ASPIRATION HAZARD – Category 1
- **Carc. 2 H351** CARCINOGENICITY – Category 2
- **EUH066** Repeated exposure may cause skin dryness and cracking
- **Eye Dam. 1 H318** SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
- **Flam. Liq. 3, H226** FLAMMABLE LIQUIDS – Category 3
- **Repr. 2, H361fd (oral)** TOXIC TO REPRODUCTION (Fertility and Unborn child) (Oral) – Category 2
- **Skin Corr. 1B, H314** SKIN CORROSION/IRRITATION – Category 1B
- **Skin Sens. 1, H317** SKIN SENSITIZATION – Category 1
- **Skin Sens. 1A, H317** SKIN SENSITIZATION – Category 1A
- **STOT SE 3, H335** SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Respiratory tract irritation) – Category 3
- **STOT SE 3, H336** SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic Effects) – Category 3

**History**
- Date of issue/date of revision: 7/8/18
- Date of previous issue: January 2015
- Prepared by: Intumescent Systems Ltd

**Disclaimer**
The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.
HEALTH & SAFETY INFORMATION SHEET
APPENDIX 49b
HW SUPERB CLEAR MATT

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

1.1 Product Identifier
PRODUCT NAME: HW Superb Clear Matt

1.2 Relevant identified uses of the substance or mixture and uses advised against
PRODUCT USE: Consumer applications, Professional applications
USE OF THE SUBSTANCE/MIXTURE: Coating

1.3 Details of the supplier of the safety data sheet
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barfrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555 01304 842666 sales@envirograf.com

1.4 Emergency telephone number
SUPPLIER TELEPHONE NUMBER: 01304 842555 (Office hours only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Product Definition: Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
STOT SE 3, H336
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended
See Section 16 for the full text of the H statements declared above
See Section 11 for more detailed information on health effects and symptoms

2.2 Label elements
Hazard pictograms:

Signal Word: Warning
Hazard Statements: Flammable liquid and vapour
May cause drowsiness or dizziness

Precautionary Statements
General: Keep out of reach of children. If medical advice is needed, have product container or label at hand
Prevention: Wear Protective gloves. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response: If Inhaled: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN (or hair):
Immediately remove all contaminated clothing. Rinse skin with water.
Storage: Store in a well-ventilated place. Keep cool.
Disposal: Dispose of contents & container in accordance with all local, regional, national & international regulations.
P102, P101, P280, P210, P281, P304 + P340, P303 + P353, P403, P235, P501
HAZARDOUS INGREDIENTS: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics
Supplemental Label Elements: Contains ochthilinone (ISO) and 2-butanol oxime. May produce an allergic reaction. Repeated exposure may cause skin dryness or cracking.
ANNEX XVII – RESTRICTIONS ON THE MANUFACTRE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES: Not applicable
Special packaging requirements
Containers to be fitted with child-resistant fastenings: not applicable
Tactile warning of danger: Not applicable

2.3 Other hazards
Other hazards which do not result in classification: Prolonged or repeated contact may dry skin and cause irritation.
### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient Name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>REACH#: 01-2119457736-27, EC: 927-632-8, CAS: 64742-47-8</td>
<td>≥1.0 - ≤5.0</td>
<td>Asp. Tox. 1, H304, EUH066</td>
<td>[1]</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>REACH#: 01-2119539477-28, EC: 202-496-6, CAS: 96-29-7, Index: 616-014-00-0</td>
<td>&lt;1.0</td>
<td>Acute Tox. 4, H312, Eye Dam. 1, H318, Skin Sens. 1, H317, Carc. 2, H351</td>
<td>[1]</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>REACH#: 01-2119979088-21, EC: 245-018-1, CAS: 22464-99-9</td>
<td>≤1.0</td>
<td>Repr. 2, H361fd (Fertility and unborn child) (oral), See Section 16 for the full text of the H statements declared above</td>
<td>[1] [2]</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned workplace exposure limit and hence require reporting in this section.

Types:

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8

SUB codes represent substance without registered CAS numbers.

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye Contact:** Remove contact lenses. Irrigate copiously with clean, fresh water holding the eyelids apart for at least 10 minutes. Seek immediate medical advice.

**Inhalation:** Remove to fresh air, keep patient warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

**Skin Contact:** Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or a recognized skin cleaner. DO NOT USE SOLVENT OR THINNERS.

**Ingestion:** If accidentally swallowed seek medical advice immediately and show the container or label. Keep person warm and at rest. DO NOT induce vomiting.

**Protection of First-Aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

#### 4.2 Most important symptoms and effects, both acute and delayed

**Potential Acute Health Effects**

**Eye Contact:** No known significant effects or critical hazards

**Inhalation:** Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin Contact:** Defatting to the skin. May cause dryness and irritation.

**Ingestion:** Can cause central nervous system (CNS) depression.
Over-Exposure Signs/Symptoms
Eye Contact: No specific data
Inhalation: Adverse symptoms may include the following: nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.
Skin Contact: Adverse symptoms may include irritation, redness, dryness, cracking.
Ingestion: No specific data

4.3 Indication of any immediate medical attention and special treatment needed
Notes To Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific Treatments: No specific treatment.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
Suitable Extinguishing Media: Use dry chemical, CO2, water spray (fog) or foam
Unsuitable Extinguishing Media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture
Hazard From The Substance Or Mixture: Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard
Hazardous Combustion Products: Decomposition products may include the following materials: metal oxide/oxides.

5.3 Advice for firefighters
Special Precautions For Firefighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special Protective Equipment For Firefighters: Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots and gloves) confirming to European standard EN 469 will provide a basic level of protection for chemical incidents

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For Non-Emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel.”

6.2 Environmental Precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

6.3 Methods and material for containment and cleaning up
Small spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other Sections: See Section 1 for emergency contact information
See Section 8 for information appropriate personal protective equipment
See Section 13 for additional waste treatment information
7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature 5 to 25°C (41 to 77°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for identified uses.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product / ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>STEL: 10 mg/m³, (as Zr) 15 minutes</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³, (as Zr) 8 hours</td>
</tr>
</tbody>
</table>

Recommended monitoring: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
### DNELs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>208 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>n-alkalines, isoalkanes</td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>871 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td>cyclics, &lt;2% aromatics</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>185 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>9 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>3.33 mg/m³</td>
<td>Workers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>1.3 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2.5 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2.7 mg/m³</td>
<td>Consumers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>0.75 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

### PNECs

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Compartment Detail</th>
<th>Value</th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butanone oxime</td>
<td>-</td>
<td>Fresh water</td>
<td>0.256 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage treatment plant</td>
<td>177 mg/l</td>
<td>Assessment Factors</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**: Chemical splash goggles. Use eye protection according to EN166

**Skin protection**

**Hand Protection**: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class 2 or higher (breakthrough time greater than 30 minutes according to EN374) is recommended.

**Gloves**: Nitrile rubber

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Filter type: organic vapour (Type A) and particulate filter P3
9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

**Appearance**
- Physical state: Liquid
- Colour: Clear
- Odour: Hydrocarbon [slight]
- Odour threshold: Not available
- pH: Insoluble in water
- Melting/freezing point: May start to solidify at the following temperature: -15°C (5°F). This is based on data for the following ingredient: Hydrocarbons C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics. Weighted average: -60.52°C (-76.9°F)
- Initial boiling point and boiling range: 145°C
- Flash point: Closed cup: 43°C
- Evaporation rate: Highest known value: 0.04 (Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics). Weighted average: 0.03 compared with butyl acetate
- Material supports combustion: Yes
- Flammability (solid, gas): Liquid
- Upper/lower flammability or explosive limits: Greatest known range: Lower 0.6% Upper 7% (Hydrocarbons C10-C13 n-alkanes, isoalkanes, cyclics, <2% aromatics)
- Vapour pressure: Highest known value: 0 to 0.3 kPa (0.8 to 2.3mm Hg) (at 20°C) (Naptha (petroleum), hydrotreated heavy). Weighted Average: 0.16kPa (1.2mm Hg) (at 20°C)
- Vapour density: Highest known value: 4.5 (Air = 1) 0.04 (Hydrocarbons C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics).
- Relative density: 0.93
- Solubility(ies): Insoluble in the following materials: cold water
- Partition coefficient: n-octanol/water: Not applicable
- Auto-ignition temperature: Lowest known value: >230°C (>446°F) (Hydrocarbons C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics)
- Decomposition temperature: Stable under recommended storage and handling conditions (see Section 7)
- Viscosity: Kinematic (40°C): >2.1cm²/s
- Viscosity: 30 - 40 s (ISO 6mm)
- Explosive properties: Product does not present an explosion hazard
- Oxidising properties: Product does not present an explosion hazard

9.2 Other information
No additional information.

10. STABILITY AND REACTIVITY

10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability: The product is stable
10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reaction will not occur
10.4 Conditions to avoid: When exposed to high temperature may produce hazardous decomposition products. Refer to protective measures listed in Sections 7 & 8
10.5 Incompatible materials: Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.
10.6 Hazardous decomposition products: Depending on conditions, decomposition products may include the following materials: metal oxide/oxides
11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum), Hydrotreated heavy: Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC50 Dermal</td>
<td>Rat</td>
<td>&gt;5000mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% Aromatics</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5000mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC50 Oral</td>
<td>Rat</td>
<td>&gt;6g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;930mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: There are no data available on the mixture itself.

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not available</td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Eyes: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Sensitisation**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Sensitisation**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Mutagenicity**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Carcinogenicity**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Reproductive toxicity**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Teratogenicity**

**Conclusion/Summary**

Skin: There are no data available on the mixture itself
Respiratory: There are no data available on the mixture itself

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Product / ingredients name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% Aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Naphtha (petroleum), Hydrotreated heavy</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure**

Not available
Potential acute health effects

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Ingestion: Can cause central nervous system (CNS) depression.

Skin contact: Defatting to the skin. May cause skin dryness and irritation.

Eye contact: No known significant effects or critical hazards.

Symptoms related to the physical chemical and toxicological characteristics

Inhalation: Adverse symptoms may include the following: Nausea or vomiting, Headache, Drowsiness/fatigue, Dizziness/vertigo, Unconsciousness.

Ingestion: No specific data.

Skin contact: Adverse symptoms may include the following: Irritation, Dryness, Cracking.

Eye contact: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

Conclusion/Summary: Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Other information: Not available

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No. 1272/2008 and is classified for toxicological hazards accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated Occupational Exposure Limit may result in adverse health effects such as irritation of the mucous membrane and respiratory system and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2-butanone oxime, octhilinone (ISO). May produce an allergic reaction.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>LC50&gt;1000mg/l</td>
<td>Algae</td>
<td>72 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary: There are no data available on the mixture itself.
12.2 Persistence and degradability:

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>80% - Readily – 28 days</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
<tr>
<td>Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>-</td>
<td>Readily</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>10 to 2500</td>
<td>High</td>
</tr>
<tr>
<td>Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>159</td>
<td>Low</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>0.63</td>
<td>5.01</td>
<td>Low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition</th>
<th>Coefficient (Koc)</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Not available</td>
</tr>
</tbody>
</table>

12.5 Results of PBT abd vPvB assessment

<table>
<thead>
<tr>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.6 Other adverse effects

: No known significant effects or critical hazards.

13. DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s)

13.1 Waste treatment methods

**Product**

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protections and waste disposal legislation and any regional local authority requirements. Dispose of surplus or non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Yes

**European waste catalogue (EWC)**

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11*</td>
<td>Waste paint and varnish containing organic solvents or other dangerous substances</td>
</tr>
</tbody>
</table>

**Packaging**

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

<table>
<thead>
<tr>
<th>Type of packaging</th>
<th>European waste catalogue (EWC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>15 01 04 metallic packaging</td>
</tr>
</tbody>
</table>

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.2 proper shipping name</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.3 Transport hazard class(es)</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.4 Packing group</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.5 environmental hazards substances</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine pollutant</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Additional information
ADR/RID: None identified
Tunnel code: (D/E)
ADN: None identified
IMDG: None identified
IATA: None identified

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable

15. REGULATORY INFORMATION

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

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV – List of substances subject to authorisation
Annex XIV
None of the components are listed.
Substances of very high concern
None of the components are listed
Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
: Not applicable

Other EU regulations
Ozone depleting substances (1005/2009/EU)
Not listed
VOC for Ready-for-Use : IIA/e. Interior/exterior trim varnishes and woodstains, including opaque woodstains. EU Limit values: 400g/l (2010)
This product contains a maximum of 400g/l VOC

Seveso Directive
This product is controlled under the Seveso Directive

Danger criteria
Category
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
6: Flammable (R10)

15.2 Chemical Safety Assessment
: No Chemical Safety Assessment has been carried out.
16. OTHER INFORMATION

Abbreviations and acronyms:
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the international Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3 H226</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H. Statements:
H226 Flammable liquid and vapour
H304 May be fatal if swallowed and enters airways
H312 Harmful in contact with skin
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H336 May cause drowsiness or dizziness
H351 Suspected of causing cancer
H361 fd (Oral) Suspected of damaging fertility if swallowed. Suspected of damaging the unborn child if swallowed

Full text of classifications [CLP/GHS]
Acute Tox. 4, H312 ACUTE TOXICITY (dermal) – Category 4
Asp. Tox. 1, H304 ASPIRATION HAZARD – Category 1
Carc. 2 H351 CARCINOGENICITY – Category 2
EUH066 Repeated exposure may cause skin dryness and cracking
Eye Dam. 1 H318 SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
Flam. Liq. 3, H226 FLAMMABLE LIQUIDS – Category 3
Repr. 2, H361fd (oral) TOXIC TO REPRODUCTION (Fertility and Unborn child) (Oral) Category 2
Skin Sens. 1, H317 SKIN SENSITIZATION – Category 1
Skin Sens. 1A, H317 SKIN SENSITIZATION – Category 1A
STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Narcotic effects) – Category 3

History
Date of Issue/date of revision 8/8/18
Date of previous issue January 2015
Prepared by – Intumescent Systems Ltd

Disclaimer
The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by us, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.
HEALTH & SAFETY INFORMATION SHEET
APPENDIX 49c
HW SUPERB CLEAR SATIN

Issue 3 9/08/2018

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

1.1 Product Identifier
PRODUCT NAME: HW Superb Clear Satin

1.2 Relevant identified uses of the substance or mixture and uses advised against
PRODUCT USE: Consumer applications, Professional applications
USE OF THE SUBSTANCE/MIXTURE: Coating

1.3 Details of the supplier of the safety data sheet
MANUFACTURER/SUPPLIER: Envirograf
ADDRESS: Envirograf House, Barfrestone, Dover, Kent, CT15 7JG
TELEPHONE/FAX/EMAIL: 01304 842555  01304 842666  sales@envirograf.com

1.4 Emergency telephone number
SUPPLIER TELEPHONE NUMBER: 01304 842555 (Office hours only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
PRODUCT DEFINITION: Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Flam. Liq. 3, H226
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended
See Section 16 for the full text of the H statements declared above
See Section 11 for more detailed information on health effects and symptoms

2.2 Label elements
Hazard pictograms:

Signal Word: Warning
Hazard Statements: Flammable liquid and vapour

PRECAUTIONARY STATEMENTS
General: Keep out of reach of children. If medical advice is needed, have product container or label at hand
Prevention: Wear Protective gloves. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response: If On Skin (or hair): Immediately remove all contaminated clothing. Rinse skin with water or shower.
Storage: Store in a well-ventilated place. Keep cool.
Disposal: Dispose of contents & container in accordance with all local, regional, national & international regulations.
P102, P101, P280, P210, P303 + P361 + P353, P403, P235, P501
Hazardous Ingredients: Nor applicable
Supplemental Label Elements: Contains octhilinone (ISO) and 2-butanone oxime. May produce an allergic reaction.
Annex xvii – restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable

Special packaging requirements
Containers to be fitted with child-resistant fastenings: Not applicable
Tactile warning of danger: Not applicable

2.3 Other hazards
Other hazards which do not result in classification: Prolonged or repeated contact may dry skin and cause irritation.
### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures:

<table>
<thead>
<tr>
<th>Product/ingredient Name</th>
<th>Identifiers</th>
<th>% by weight</th>
<th>Classification Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butane oxime</td>
<td>REACH#: 01-2119539477-28 EC: 202-496-6 CAS: 96-29-7 Index: 616-014-00-0</td>
<td>&lt;1.0</td>
<td>Acute Tox. 4, H312 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351</td>
<td>[1]</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>REACH#: 01-2119375088-21 EC: 245-018-1 CAS: 22464-99-9</td>
<td>≤1.0</td>
<td>Repr. 2, H361fd (Fertility and unborn child) (oral) See Section 16 for the full text of the H statements declared above.</td>
<td>[1] [2]</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned workplace exposure limit and hence require reporting in this section.

**Type**

1. Substance classified with a health or environmental hazard
2. Substance with a workplace exposure limit
3. Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
4. Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
5. Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8
SUB codes represent substance without registered CAS numbers.

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye Contact**: Remove contact lenses. Irrigate copiously with clean, fresh water holding the eyelids apart for at least 10 minutes. Seek immediate medical advice.

**Inhalation**: Remove to fresh air, keep patient warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel

**Skin Contact**: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or a recognized skin cleaner. DO NOT USE SOLVENT OR THINNERS.

**Ingestion**: If accidentally swallowed seek medical advice immediately and show the container or label. Keep person warm and at rest. DO NOT induce vomiting.

**Protection of First-Aiders**: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

#### 4.2 Most important symptoms and effects, both acute and delayed

**POTENTIAL ACUTE HEALTH EFFECTS**

**Eye Contact**: No known significant effects or critical hazards.

**Inhalation**: No known significant effects or critical hazards.

**Skin Contact**: Defatting to the skin. May cause dryness and irritation.

**Ingestion**: No known significant effects or critical hazards.

**OVER-EXPOSURE SIGNS/SYMPTOMS**

**Eye Contact**: No specific data

**Inhalation**: No specific data

**Skin Contact**: Adverse symptoms may include irritation, redness, dryness, cracking.

**Ingestion**: No specific data
4.3 Indication of any immediate medical attention and special treatment needed

Notes To Physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific Treatments: No specific treatment.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
Suitable Extinguishing Media: Use dry chemical, CO2, water spray (fog) or foam
Unsuitable Extinguishing Media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture
Hazards From The Substance Or Mixture: Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard
Hazardous Combustion Products: Decomposition products may include the following materials: metal oxide/oxides.

5.3 Advice for firefighters
Special Precautions for Firefighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special Protective Equipment For Firefighters: Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for firefighters (including helmets, protective boots and gloves) confirming to European standard EN 469 will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For Non-Emergency Personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding area. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in “For non-emergency personnel.”

6.2 Environmental Precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

6.3 Methods and material for containment and cleaning up
Small spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other Sections
See Section 1 for emergency contact information
See Section 8 for information appropriate personal protective equipment
See Section 13 for additional waste treatment information
7. HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Storage temperature 5 to 25°C (41 to 77°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for identified uses.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product / ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>EH40/2005 WELs (United Kingdom (UK). 12/2011). STEL: 10 mg/m³, (as Zr) 15 minutes TWA: 5 mg/m³, (as Zr) 8 hours</td>
</tr>
</tbody>
</table>

Recommended monitoring: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres – Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Type</th>
<th>Exposure</th>
<th>Value</th>
<th>Population</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNELs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocarbons, C9-C11 n-alkalines, isoalkanes cyclics, &lt;2% aromatics</td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>208 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>871 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term inhalation</td>
<td>185 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Oral</td>
<td>125 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>9 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>3.33 mg/m³</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>1.3 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>2.5 mg/kg bw/day</td>
<td>Workers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2.7 mg/m³</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Inhalation</td>
<td>2 mg/m³</td>
<td>Consumers</td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Long term Dermal</td>
<td>0.75 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
<tr>
<td></td>
<td>DNEL</td>
<td>Short term Dermal</td>
<td>1.5 mg/kg bw/day</td>
<td>Consumers</td>
<td>Systemic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PNECs</th>
<th></th>
<th></th>
<th></th>
<th>Method Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product/ingredient name</td>
<td>Type</td>
<td>Compartment Detail</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>-</td>
<td>Fresh water</td>
<td>0.256 mg/l</td>
<td>Assessment Factors</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Sewage treatment plant</td>
<td>177 mg/l</td>
<td>Assessment Factors</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Chemical splash goggles.

Skin protection

Hand Protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class or 2 or higher (breakthrough time greater that 30 minutes according to EN374) is recommended.

Gloves: Nitrile rubber

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the sage working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Filter type: organic vapour (Type A) and particulate filter P3.
Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Physical state: Liquid</td>
</tr>
<tr>
<td></td>
<td>Colour: Clear</td>
</tr>
<tr>
<td></td>
<td>Odour: Hydrocarbon [slight]</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>May start to solidify at the following temperature: -49°C (-56.2°F). This is based on data for the following ingredient: Distillates (petroleum), hydrotreated light. Weighted average -62.84°C (-81.1°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>145°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Closed cup: 45°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Highest known value: 0.04 (Hydrocarbons C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics). Weighted average: 0.11 compared with butyl acetate</td>
</tr>
<tr>
<td>Material supports combustion</td>
<td>Yes</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Liquid</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Greatest known range: Lower 0.6% Upper 7% (Hydrocarbons C9-C11 n-alkanes, isoalkanes, cyclics, &lt;2% aromatics)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Highest known value: 0.3 kPa (2.3mm Hg) (at 20°C) (Hydrocarbons C9-C11, n-alkanes, cyclics, &lt;2% aromatics). Weighted Average: 0.16kPa (1.2mm Hg) (at 20°C)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Highest known value: 4.5 (Air = 1) 0.04 (Distillates (petroleum), hydrotreated light).</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.95</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in the following materials: cold water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Lowest known value: &gt;220°C (&gt;428°F) (Distillates (petroleum), hydrotreated light).</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Stable under recommended storage and handling conditions (see Section 7)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Kinematic (room temperature): &gt;4cm²/s</td>
</tr>
<tr>
<td></td>
<td>Kinematic (40°C): &gt;2.1cm²/s</td>
</tr>
<tr>
<td>Viscosity</td>
<td>60 -100 s (ISO 6mm)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product does not present an explosion hazard</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Product does not present an explosion hazard</td>
</tr>
</tbody>
</table>

#### 9.2 Other information

No additional information.

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

#### 10.2 Chemical stability

The product is stable

#### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reaction will not occur

#### 10.4 Conditions to avoid

When exposed to high temperature may produce hazardous decomposition products. Refer to protective measures listed in Sections 7 & 8

#### 10.5 Incompatible materials

Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

#### 10.6 Hazardous decomposition products

Depending on conditions, decomposition products may include the following materials: metal oxide/oxides
### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum),</td>
<td>LC50 Inhalation Vapour</td>
<td>Rat</td>
<td>8500mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>Hydrotreated heavy</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6g/kg</td>
<td>-</td>
</tr>
<tr>
<td>Hydrocarbons, C9-C11, n-</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6g/kg</td>
<td>-</td>
</tr>
<tr>
<td>alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% Aromatics</td>
<td>LC50 inhalation Vapour</td>
<td>Rat</td>
<td>8500mg/m³</td>
<td>4 hours</td>
</tr>
<tr>
<td>2-butanoxyne oxime</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;6g/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, zincium salt</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>930mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5 g/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

**Conclusion/Summary**: Not available

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available</td>
<td></td>
</tr>
</tbody>
</table>

**Irritation/Corrosion**

Conclusion/Summary: Not available

**Sensitisation**

Conclusion/Summary: Not available

**Mutagenicity**

Conclusion/Summary: Not available

**Carcinogenicity**

Conclusion/Summary: Not available

**Reproductive toxicity**

Conclusion/Summary: Not available

**Teratogenicity**

Conclusion/Summary: Not available

**Specific target organ toxicity (single exposure)**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>Category 3</td>
<td>Not applicable</td>
<td>Narcotic effects</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity (repeated exposure)**

Not available

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Product / ingredients name</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
<tr>
<td>Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, &lt;2% Aromatics</td>
<td>ASPIRATION HAZARD – Category 1</td>
</tr>
</tbody>
</table>

**Information on the likely routes of exposure – Not available**

**Potential acute health effects**

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: Defatting to the skin. May cause skin dryness and irritation.
- **Eye contact**: No known significant effects or critical hazards.

**Symptoms related to the physical chemical and toxicological characteristics**

- **Inhalation**: No specific data
- **Ingestion**: No specific data
- **Skin contact**: Adverse symptoms may include the following:
  - Irritation
  - Dryness
  - Cracking
Eye contact: No specific data

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- **Potential immediate effects**: Not available
- **Potential delayed effects**: Not available

#### Long term exposure

- **Potential immediate effects**: Not available
- **Potential delayed effects**: Not available
- **Potential chronic health effects**: Not available

**Conclusion/Summary**: Not available

**General**: Prolonged or repeated contact can defat the skin and lead to irritation, cracking, and/or dermatitis.

**Carcinogenicity**: No known significant effects or critical hazards.

**Mutagenicity**: No known significant effects or critical hazards.

**Teratogenicity**: No known significant effects or critical hazards.

**Developmental effects**: No known significant effects or critical hazards.

**Fertility effects**: No known significant effects or critical hazards.

**Other information**: Not available

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No. 1272/2008 and is classified for toxicological hazards accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated Occupational Exposure Limit may result in adverse health effects such as irritation of the mucous membrane and respiratory system and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 2-butanone oxime, octhilinone (ISO). May produce an allergic reaction.

---

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

**Conclusion/Summary**: No data available

#### 12.2 Persistence and degradability

**Conclusion/Summary**: Not available

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>-</td>
<td>Readily Readily</td>
</tr>
</tbody>
</table>

#### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics &lt;2% aromatics</td>
<td>-</td>
<td>159</td>
<td>Low</td>
</tr>
<tr>
<td>2-butanone oxime</td>
<td>0.63</td>
<td>5.01</td>
<td>Low</td>
</tr>
</tbody>
</table>

#### 12.4 Mobility in soil

**Soil/water partition**: Not available

**Coefficient (Koc)**: Not available

#### 12.5 Results of PBT and vPvB assessment

**PBT**: Not applicable

**vPvB**: Not applicable

#### 12.6 Other adverse effects

: No known significant effects or critical hazards.
13. DISPOSAL CONSIDERATIONS

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Product</th>
<th>Methods of disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protections and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.</td>
</tr>
</tbody>
</table>

Hazardous waste: Yes

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11*</td>
<td>Waste paint and varnish containing organic solvents or other dangerous substances</td>
</tr>
</tbody>
</table>

Packaging

<table>
<thead>
<tr>
<th>Type of packaging</th>
<th>European waste catalogue (EWC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td>15 01 04 metallic packaging</td>
</tr>
</tbody>
</table>

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<tr>
<td>14.2 proper shipping name</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5 environmental hazards Marine pollutant substances</td>
<td>No</td>
<td>Not applicable</td>
<td>No</td>
</tr>
</tbody>
</table>

Additional information

ADR/RID: This class 3 material is not subject to regulation in packagings up to 450L. Exempted according to 2.2.3.1.5 (Viscous substance exemption)

Tunnel code ADN: (D/E)

IMDG: None identified

IATA: None identified

Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable
15. REGULATORY INFORMATION

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

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV – List of substances subject to authorisation
Annex XIV
None of the components are listed.
Substances of very high concern
None of the components are listed
Annex XVII – Restrictions
: Not applicable
on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

VOC for Ready-for-Use Mixture
: IIA/e. Interior/exterior trim varnishes and woodstains, including opaque woodstains. EU Limit values: 400g/l (2010)
This product contains a maximum of 400g/l VOC

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Carcinogenic Effects</th>
<th>Mutagenic effects</th>
<th>Developmental Effects</th>
<th>Fertility effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butanol oxide</td>
<td>Carc. 2, H351</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2-ethylhexanoic acid, zirconium salt</td>
<td>-</td>
<td>-</td>
<td>Repr. 2, H361d (Unborn child) (oral)</td>
<td>-</td>
</tr>
</tbody>
</table>

Seveso Directive
This product is controlled under the Seveso Directive

Danger criteria

Category
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b
6: Flammable (R10)

15.2 Chemical Safety Assessment
: No Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
ADR = The European Agreement concerning the international Carriage of Dangerous Goods by Road
ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3 H226</td>
<td>On basis of test data</td>
</tr>
</tbody>
</table>
Full text of abbreviated H. Statements
H226  Flammable liquid and vapour
H304  May be fatal if swallowed and enters airways
H312  Harmful in contact with skin
H317  May cause an allergic skin reaction
H318  Causes serious eye damage
H336  May cause drowsiness or dizziness
H351  Suspected of causing cancer
H361 fd (Oral)  Suspected of damaging fertility if swallowed. Suspected of damaging the unborn child if swallowed

Full text of classifications
[CLP/GHS]
Acute Tox. 4, H312  ACUTE TOXICITY (dermal) – Category 4
Asp. Tox. 1, H304  ASPIRATION HAZARD – Category 1
Carc. 2 H351  CARCINOGENICITY – Category 2
EUH066  Repeated exposure may cause skin dryness and cracking
Eye Dam. 1 H318  SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
Flam. Liq. 3, H226  FLAMMABLE LIQUIDS – Category 3
Repr. 2, H361fd (oral)  TOXIC TO REPRODUCTION (Fertility and Unborn child) (Oral) – Category 2
Skin Sens. 1, H317  SKIN SENSITIZATION – Category 1
STOT SE 3, H335  SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE (Narcotic effects) – Category 3

History
Date of Issue/date of revision  9/8/18
Date of previous issue January 2015
Prepared by – Intumescent Systems Ltd

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