TURPENTINE SUBSTITUTE

SECTION 1: IDENTIFICATION OF SUBSTANCE/PREPARATION & COMPANY

1.1 Product Identifier

Product/Material: TURPENTINE SUBSTITUTE
REACH Registration Name: Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%).
REACH registration No: 01-2119458049-33
Pure Substance/mixture: Substance

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

Identified uses: Manufacture of substance, Distribution of substance, Formulation & (re)packing of substances and mixtures, Uses in Coatings, Use in Cleaning Agents, Lubricant, Metalworking fluid, Use as a fuel, Lamp oil, Barbecue lighter, Functional Fluids, Road and construction applications, Laboratory activities, Rubber production and processing, Water treatment chemical, Polymer processing.

1.3 Details of the supplier of the safety data sheet

Supplier: R.K. & J. Jones Limited
Address: Southery Road, Feltwell, Thetford, Norfolk, IP26 4EH, UK.
Telephone: 01842 828101
Fax: 01842 828171
Emergency Number: 01223 968282
E-mail Address: sales@birdbrand.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008
For the full text of the H-Statements mentioned in this Section, see Section 2.2.

Classification
Flammable liquids - Category 3 - H226
Aspiration toxicity - Category 1 - H304
Specific target organ systemic toxicity (single exposure) - Category 3 - H336
Chronic aquatic toxicity - Category 2 - H411

DIRECTIVE 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16

Symbol(s)
Xn - Harmful
N - Dangerous for the environment

Classification
R10 - Xn; R65 - R66 - R67 - N; R51-53
2.2. Label elements

Labelled according to: REGULATION (EC) No 1272/2008

Contains Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)
EC-No 919-446-0

Hazard pictograms

Signal Word
DANGER

Hazard Statements
H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear protective gloves and eye/face protection
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P271 - Use only outdoors or in a well-ventilated area
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331 - Do NOT induce vomiting
P273 - Avoid release to the environment

Supplemental Hazard Statements
EUH066 - Repeated exposure may cause skin dryness or cracking

2.3. Other hazards

Physical-Chemical Properties
Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground level to sources of ignition.

Properties Affecting Health
Vapours inhaled in strong concentration have a narcotic effect on the central nervous system.

Environmental properties
Should not be released into the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Chemical nature
A complex and variable combination of paraffinic, cyclic and aromatic hydrocarbons having a carbon number range predominantly of C9 to C12 and boiling in the range of approximately 135°C to 220°C. The aromatic content is between 2% and 25%.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>REACH Registration No:</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Dir. 67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C12, n-alkanes, cyclics, aromatics (2-25%)</td>
<td>-</td>
<td>61/2119458049-33</td>
<td>*</td>
<td>100</td>
<td>R10,R65,R51-53</td>
<td>Flam Liquid (H226) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)</td>
</tr>
</tbody>
</table>
The EC substance definition and related classification & labelling has been developed in the framework of the Regulation (EC) No 1907/2006 (REACH). For information about the related CAS number see section 15 of this MSDS Total aromatic content : 15-20 % Contains

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>REACH Registration No:</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Dir. 67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes (o-,m-,p-isomers)</td>
<td>215-535-7</td>
<td>No data available</td>
<td>1330-20-7</td>
<td>0-3</td>
<td>R10, R20/21, Xi, R38</td>
<td>Flam. Liq. 3 (H226), Acute Tox. 4 (H312), Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td>1,3,5-Trimethylbenzene</td>
<td>203-604-4</td>
<td>No data available</td>
<td>180-67-8</td>
<td>0-1</td>
<td>R10, Xi, R37, N, R51-53</td>
<td>Flam. Liq. 3 (H226), STOT SE 3 (H335), Aquatic Chronic 2 (H411)</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>202-849-4</td>
<td>No data available</td>
<td>100-41-4</td>
<td>0-1</td>
<td>F, R11, Xi, R20</td>
<td>Flam. Liq. 2 (H225), Acute Tox. 4 (H332)</td>
</tr>
</tbody>
</table>

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: FIRST AID MEASURES**

4.1. Description of first-aid measures

**General advice**
IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

**Eye contact**
Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

**Skin contact**
Remove contaminated clothing and shoes. Wash off with soap and water.

**Inhalation**
In case of exposure to intense concentrations of vapours, fumes or spray, transport the person away from the contaminated zone, keep warm and allow to rest.

**Ingestion**
If swallowed, do not induce vomiting - seek medical advice. Risk of product entering the lungs on vomiting after ingestion. In this case, the casualty should be sent immediately to hospital.

**Protection of First-Aiders**
Use personal protective equipment.

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

**Eye contact**
Burning feeling and temporary redness.

**Skin contact**
Prolonged or repeated contact may dry skin and cause irritation.

**Inhalation**
Vapours inhaled in strong concentration have a narcotic effect on the central nervous system. Irritation of the respiratory tract due to excess fume, Causes headache, drowsiness or other effects to the central nervous system, loss of consciousness.

**Ingestion**
Nausea, Vomiting, Abdominal pain. Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours).

4.3. Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician**
Treat symptomatically.
SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media: Foam, Dry powder, Carbon dioxide (CO₂), Water spray.

Unsuitable Extinguishing Media: Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Special Hazard: Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

5.3. Advise for Fire-fighters

Special protective equipment for Fire-fighters: In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Other information: Cool containers/tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information: Use personal protective equipment. Evacuate non-essential personnel. Ensure adequate ventilation, especially in confined areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material.

6.2. Environmental precautions

General Information: Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills. The product should not be allowed to enter drains, water courses or the soil. Local authorities should be advised if significant spills cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up: Use non-sparking hand tools and explosion proof electrical equipment. Contain spillage, and then collect with non-combustible absorbent material, (e.g., sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Following product recovery, flush area with water.

6.4. Reference to other sections

Personal Protective Equipment: See Section 8 for more detail

Waste treatment: See section 13

Other information: Remove all sources of ignition. Stop all work that requires a naked flame, stop all vehicles, stop all machines and equipment that may cause sparks or flames.
SECTION 7 : HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling
For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.

Technical measures
Ensure adequate ventilation.
Do not spray at high pressure (> 3 bar).
WHILE MOVING THE PRODUCT: To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Do not allow splash loading and ensure that the product is poured slowly, particularly at the beginning of the operation.

Prevention of fire and explosion
OPERATE ONLY ON COLD AND DEGASSED TANKS IN VENTILATED PREMISES (TO AVOID RISK OF EXPLOSION).
Handle away from any source of ignition (open flame and sparks) and heat (hot manifolds or casings). Do not smoke.
Use explosion proof electrical equipment. Take precautionary measures against static discharges. Do not use compressed air for filling, discharging or handling.
Design installations (machinery and equipment) to prevent burning product from spreading (tanks, retention systems, interceptors (traps) in drainage systems).

Hygiene measures
Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product.
When using, do not eat, drink or smoke.
Regular cleaning of equipment, work area and clothing is recommended. Do not dry hands with rags that have been contaminated with product. Do not use abrasives, solvents or fuels. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage Conditions:
Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts.
Storage installations should be designed with adequate bunds so as to prevent ground or water pollution in case of leaks or spills. Use explosion proof electrical equipment. Keep in a bunded area. Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Ground/bond containers, tanks and transfer/receiving equipment. Store at room temperature.
Keep containers tightly closed and properly labelled.

Materials to Avoid
Strong acids. Oxidizing agents.

Packaging material
Keep only in the original container or in a suitable container for this kind of product. steel . Stainless steel.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
Ingredients with workplace control parameters
### Legend
See section 16

### Advisory OEL
CEFIC-HSPA : 350 mg/m³

### DNEL Worker (Industrial/Professional)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Short term, systemic effects</th>
<th>Short term, local effects</th>
<th>Long Term, systemic effects</th>
<th>Long term, local effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)</td>
<td></td>
<td></td>
<td>44 mg/kg bw/day (demal)</td>
<td>330 mg/m³/8h (inhalation)</td>
</tr>
</tbody>
</table>

### DNEL General population

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Short term, systemic effects</th>
<th>Short term, local effects</th>
<th>Long Term, systemic effects</th>
<th>Long term, local effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)</td>
<td></td>
<td></td>
<td>26 mg/kg bw/day (demal)</td>
<td>71 mg/m³/24h (inhalation)</td>
</tr>
</tbody>
</table>

### 8.2. Exposure controls

#### Occupational Exposure Controls

Engineering Measures
When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment. Apply technical measures to comply with the occupational exposure limits.

Personal Protective Equipment

General Information
Protective engineering solutions should be implemented and in use before personal protective equipment is considered. These recommendations apply to the product as supplied. If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

Respiratory protection
In the case of vapour formation use a respirator with filter model : Type A. In case of vapours and aerosol formation: Respirator with combination filter for vapour/particulate, Type A/P2. Warning ! filters have a limited use duration.

Eye Protection
If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection
Wear suitable protective clothing. Protective shoes or boots.

Hand Protection
Hydrocarbon-proof gloves for aromatic hydrocarbons.

<table>
<thead>
<tr>
<th>Glove Material</th>
<th>Glove Thickness</th>
<th>Break through time</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrile rubber</td>
<td>&gt;0.45mm</td>
<td>&gt;480 min</td>
<td>EN374</td>
</tr>
<tr>
<td>PVA</td>
<td>&gt;480 min</td>
<td></td>
<td>EN374</td>
</tr>
</tbody>
</table>
In case of contact through splashing

<table>
<thead>
<tr>
<th>Glove Material</th>
<th>Glove Thickness</th>
<th>Break through time</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloroprene</td>
<td>&gt;0.7mm</td>
<td>&gt;60min</td>
<td>EN 374</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td>&gt;0.3mm</td>
<td>&gt;60min</td>
<td>EN 374</td>
</tr>
</tbody>
</table>

Environmental exposure controls

General Information
Do not allow material to contaminate ground water system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Colour</strong></td>
<td>Colourless</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical State @20°C</strong></td>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Characteristic</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Melting point/range</strong></td>
<td>-76 °F</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>150 -200 °C</td>
<td>ISO 3405</td>
<td></td>
</tr>
<tr>
<td></td>
<td>302 -401 °F</td>
<td>ISO 3405</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>&gt;= 38 °C</td>
<td>ISO 2719</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 106 °F</td>
<td>ISO 2719</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>65</td>
<td>EtEt=1</td>
<td>DIN 53170</td>
</tr>
<tr>
<td><strong>Flammability Limits in Air</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>7 %</td>
<td>@ 20 °C</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>0.7 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vapour Pressure</strong></td>
<td>&lt; 5 hPa</td>
<td>@ 20 °C</td>
<td></td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>774 -795 kg/m3</td>
<td>@ 15 °C</td>
<td>ISO 12185</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td><strong>logPow</strong></td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>&gt; 230 °C</td>
<td>ASTM E 659-78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 446 °F</td>
<td>ASTM E 659-78</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>0.95 mm2/s</td>
<td>@ 40 °C</td>
<td>ASTM D 445</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not considered explosive based on chemical structure and oxygen balance considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing Properties</strong></td>
<td>This product is not considered oxidising based on chemical structure considerations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Possibility of hazardous reactions</strong></td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

Surface tension 0.0245 N/m @ 25 °C EN 14370

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions None under normal processing.
10.4. Conditions to Avoid

Conditions to Avoid  Heat, flames and sparks. Take precautionary measures against static discharges.

10.5. Incompatible Materials

Materials to Avoid  Strong acids. Oxidizing agents.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products  Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects, Product Information

Skin contact  Prolonged or repeated contact may dry skin and cause irritation.

Eye contact  Not classified. Symptoms: Burning feeling and temporary redness.

Inhalation  Vapours inhaled in strong concentration have a narcotic effect on the central nervous system. Irritation of the respiratory tract due to excess fume, Causes headache, drowsiness or other effects to the central nervous system, loss of consciousness.

Ingestion  Symptoms: Nausea, Vomiting, Abdominal pain. Harmful: If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious inhalation pulmonary lesions (medical survey during 48 hours).

Acute toxicity Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbon, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)</td>
<td>LD50 &gt; 15000 mg/kg bw (rat – OECD 401)</td>
<td>LD50 (24h) &gt; 3400 mg/kg bw (rat)</td>
<td>LC50 (4h) &gt; 13100mg/m3 (vapour) (rat – OECD 403)</td>
</tr>
</tbody>
</table>

Sensitization

Sensitization  Not classified as a sensitizer.

Specific Effects

Carcinogenicity  This product is not classified carcinogenic.

Mutagenicity  The mutagenic potential of the substance has been extensively studied in a range of in-vivo and in-vitro assays.

Germ Cell Mutagenicity  Genetic toxicity: negative.

Reproductive toxicity  No information available.

Developmental Toxicity  Results of guideline developmental toxicity studies on the substance and OECD developmental toxicity screening studies showed no evidence of developmental toxicity in rats.

Repeated Dose Toxicity

Subchronic toxicity  No information available.
Target Organ Effects (STOT)  Central nervous system.
Specific target organ systemic toxicity (single exposure)  Vapours may cause drowsiness and dizziness.
Specific target organ systemic toxicity (repeated exposure)  No known effect based on information supplied.
Aspiration toxicity  The fluid can enter the lungs and cause damage (chemical pneumonitis, potentially fatal).
Other information  Frequent or prolonged skin contact destroys the lipoacid cutaneous layer and may cause dermatitis.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Acute aquatic toxicity Product Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)</td>
<td>ErL50 (72h) = 4.1 mg/l (Pseudokirchneriella subcapitata – OECD 201)</td>
<td>EL50 (48h) = 10-22 mg/l (Daphnia magna – OECD 202)</td>
<td>LL50 (96h) = 10-30 mg/l (Oncorhynchus mykiss – OECD 203)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ErL50 (72h) = 4.6-10mg/l (Pseudokirchneriella subcapitata – OECD 201)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOELR (72h) = 0.76 mg/l (Pseudokirchneriella subcapitata – growth rate-OECD 201)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOELR (72h) = 0.22 mg/l (Pseudokirchneriella subcapitata - biomass – OECD 201)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chronic aquatic toxicity Product Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)</td>
<td>NOELR (21d) = 0.28 mg/l (Daphnia magna – OCDE 211)</td>
<td>NOELR (28d) = 0.13 mg/l (oncorhynchus mykiss QSAR Petrotox)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Effects on terrestrial organisms
No information available.

12.2. Persistence and degradability
General Information  Readily biodegradable (75% after 28 days).

<table>
<thead>
<tr>
<th>Biodegradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: OECD 301 F</td>
</tr>
<tr>
<td>Method: 28 days</td>
</tr>
<tr>
<td>Specific effects: 75</td>
</tr>
<tr>
<td>Biodegradability: Readily biodegradable</td>
</tr>
</tbody>
</table>
12.3. Bioaccumulative potential
Product Information Measured experimental data on hydrocarbon UVCB substances are not meaningful, since each of the constituents is likely to behave differently.

logPow Component Information Not applicable

12.4. Mobility in Soil
Soil Substance is a UVCB. Standard tests for this endpoint are not appropriate.

12.5. Results of PBT and vPvB assessment
PBT and vPvB assessment This substance is considered not to be PBT and vPvB.

12.6. Other adverse effects
General Information No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Waste from Residues/Unused Products Dispose of in accordance with the European Directives on waste and hazardous waste.

Contaminated packaging Empty containers may contain flammable or explosive vapours. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION

ADR/RID
UN/ID No UN 1300
Proper shipping name Turpentine substitute
Proper shipping name TURPENTINE SUBSTITUTE
Hazard class 3
Packing Group III
ADR/RID-Labels 3
Environmental hazard Yes
Classification Code F1
Tunnel Restriction Code (D/E)
ADR Hazard Id (Kemmler No.) 30
Description UN 1300, TURPENTINE SUBSTITUTE, 3, PG III, (D/E)
Excepted Quantity E1
Limited quantity LQ7
Hazchem Code 3Y

IMDG/IMO
UN/ID No UN 1300
Proper shipping name Turpentine substitute
Hazard class 3
Packing Group III
Marine Pollutant P
EmS No. F-E, S-E
Description: UN 1300, TURPENTINE SUBSTITUTE, 3, PG III, (40°C c.c.)
Excepted Quantity: E1
Limited quantity: 5 L

**ICAO/IATA**
- UN/ID No: UN 1300
- Proper shipping name: Turpentine substitute
- Hazard class: 3
- Packing Group: III
- ERG Code: 3L
- Special Provisions: A3
- Description: UN 1300, TURPENTINE SUBSTITUTE, 3, PG III
- Excepted Quantity: E1
- Limited quantity: 10 L

**ADN**
- UN/ID No: UN 1300
- Proper shipping name: Turpentine substitute
- Hazard class: 3
- Hazard Labels: 3
- Packing Group: III
- Environmental hazard: Yes
- Classification Code: F1
- Description: UN 1300, TURPENTINE SUBSTITUTE, 3, PG III
- Excepted Quantity: E1
- Limited quantity: LQ7
- Ventilation: VE01

**SECTION 15 : REGULATORY INFORMATION**

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

**European Union**

**REACH**
The EC substance definition is included in the CAS related number description for global inventory entries

**Other regulations**
- Directive 2004/42/EC on the limitation of emissions of volatile organic compounds
- Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**International Inventories**

<table>
<thead>
<tr>
<th>Related CAS</th>
<th>64742-82-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECS</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
<tr>
<td>NZIoC</td>
<td>Complies</td>
</tr>
</tbody>
</table>

**Legend**

- EINECS/ELINCS: European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- TSCA: United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL: Canadian Domestic Substances List/Non-Domestic Substances List
15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable
R11 - Highly flammable
R37 - Irritating to respiratory system
R38 - Irritating to skin
R65 - Harmful: may cause lung damage if swallowed
R66 - Repeated exposure may cause skin dryness or cracking
R67 - Vapours may cause drowsiness and dizziness
R20/21 - Harmful by inhalation and in contact with skin
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H225 - Highly flammable liquid and vapour
H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects

Abbreviations, acronyms

bw = body weight
bw/day = body weight/day

Legend Section 8

+ Sensitizer
** Hazard Designation
M: Mutagen
C: Carcinogen
R: Toxic to reproduction

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfill his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

Revision Date: 2610/2011 – 54442 – BB Rev 1
This safety data sheet complies with the requirements of Regulation (EC) No 1907/2006