ISOVOLTINE II

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: ISOVOLTINE II
Number: 502
Pure substance/mixture: Mixture

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

Identified uses: Insulating oil.

1.3. Details of the supplier of the safety data sheet

Supplier: TOTAL LUBRIFIANTS
562 Avenue du Parc de L’île
92029 Nanterre Cedex
Tél: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71

For further information, please contact:
Contact Point: HSE
E-mail Address: rm.msds-lubs@total.com

1.4. Emergency telephone number

+33 1 49 00 00 49 (24h/24, 7d/7)
France - ORFILA (INRS) Tél : +33 (0)1 45 42 59 59
In France : - PARIS : Hôpital Fernand Widal 200, rue du Faubourg Saint-Denis 75475 Paris Cédex 10, Tel : 01.40.05.48.48.
- MARSEILLE : Hopital Salvador, 249 bd Ste Marguerite 13274 Marseille Cedex 5, Tel : 04.91.75.25.25. - LYON : Hopital Edouard Herriot, 5 place d’ Arsonval, 69437 Lyon cedex 3, Tel : 04.72.11.69.11. - NANCY : Hopital central, 29 Av du Mal De Lattre de Tassigny, 54000 Nancy, Tel : 03.83.32.36.36 ou le SAMU : Tel ( 15 )

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
The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008
Aspiration toxicity - Category 1 - (H304)

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

Labelled according to REGULATION (EC) No 1272/2008

Contains Distillates (petroleum), hydrotreated light naphthenic, Distillates (petroleum), hydrotreated light paraffinic

Signal Word
DANGER

Hazard Statements
H304 - May be fatal if swallowed and enters airways

Precautionary Statements
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331 - Do NOT induce vomiting

2.3. Other hazards

Physical-Chemical Properties
Contaminated surfaces will be extremely slippery.

Environmental properties
Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

<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>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>265-156-6</td>
<td>01-2119480375-34</td>
<td>64742-53-6</td>
<td>10 - 60</td>
<td>-</td>
<td>Asp. Tox. 1 (H304)</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>265-158-7</td>
<td>01-2119487077-29</td>
<td>64742-55-8</td>
<td>10 - 60</td>
<td>-</td>
<td>Asp. Tox. 1 (H304)</td>
</tr>
</tbody>
</table>

Additional information
Product containing mineral oil with less than 3% DMSO extract as measured by IP 346
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.

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.

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

Inhalation
Move to fresh air. If breathing is difficult, give oxygen if possible, or assisted ventilation.

Ingestion
Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

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

Eye contact
Not classified.

Skin contact
Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Inhalation
Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.***

Ingestion
May be fatal if swallowed. If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious 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.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Foam. Carbon dioxide (CO₂). ABC powder. Water spray or fog.

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
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Version: 3

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. Advice for fire-fighters

Special protective equipment for fire-fighters
Wear self-contained breathing apparatus and protective suit.

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

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information
Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

General Information
Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up
Dam up. 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). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Personal Protective Equipment
See Section 8 for more detail.

Waste treatment
See section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

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

Prevention of fire and explosion
Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.
Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture.

Materials to Avoid

Strong oxidizing agents.

7.3. Specific end uses

Specific use(s)

No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

oil mist : 10mg/m^3, for 15 minutes; oil mist : 5mg/m^3, for 8 hours

Legend

See section 16

<table>
<thead>
<tr>
<th>DNEL Worker (Industrial/Professional)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Short term, systemic effects</td>
<td>Short term, local effects</td>
<td>Long term, systemic effects</td>
<td>Long term, local effects</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic 64742-55-8</td>
<td></td>
<td></td>
<td>5.4 mg/m^3/8h (aerosol - inhalation)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DNEL Consumer</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Short term, systemic effects</td>
<td>Short term, local effects</td>
<td>Long term, systemic effects</td>
<td>Long term, local effects</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic 64742-55-8</td>
<td></td>
<td></td>
<td>1.2 mg/m^3/24h (aerosol - inhalation)</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Occupational Exposure Controls

Engineering Measures

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

General Information
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 14387). Type A/P2: The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.***

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. Long sleeved clothing.

Hand Protection
Hydrocarbon-proof gloves. Fluorinated rubber, Nitrile rubber, Neoprene gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.***

Environmental exposure controls

General Information
The product should not be allowed to enter drains, water courses or the soil.

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>Color</td>
<td>light yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>&gt; 250 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 482 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 140 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 284 °F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>870 kg/m³</td>
<td>@ 15 °C</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Insoluble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>logPow</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>10 mm²/s</td>
<td>@ 40 °C</td>
<td>ISO 3104</td>
</tr>
<tr>
<td></td>
<td>@ 40 °C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9.2. Other information

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 (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible Materials

Materials to Avoid Strong oxidizing agents.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products None under normal use. Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity  Local effects  Product Information

Skin contact  Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Eye contact  Not classified.

Inhalation  Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.***
Ingestion

May be fatal if swallowed. If swallowed accidentally, the product may enter the lungs due to its low viscosity and lead to the rapid development of very serious pulmonary lesions (medical survey during 48 hours).***

Acute toxicity - Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 2000 mg/kg</td>
<td>= 2.18 mg/L</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>LD50 &gt; 5000 mg/kg bw (rat - OECD 420)</td>
<td>LD50 &gt; 5000 mg/kg bw (rabbit - OECD 402)</td>
<td>LC50 (4h) &gt; 5 mg/l (aerosol) (rat - OECD 403)</td>
</tr>
</tbody>
</table>

Sensitization

Not classified as a sensitizer.

Specific effects

Carcinogenicity

This product is not classified carcinogenic.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>European Union</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates (petroleum), hydrotreated light naphthenic</td>
<td>-</td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic</td>
<td>-</td>
</tr>
</tbody>
</table>

Mutagenicity

This product is not classified as mutagenic.

Reproductive toxicity

This product does not present any known or suspected reproductive hazards.

Repeated Dose Toxicity

Subchronic toxicity

No information available.

Target Organ Effects (STOT)

No information available.

Other information

Other adverse effects

Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Not classified.

Acute aquatic toxicity - Product Information

No information available.

Acute aquatic toxicity - Component Information
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<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>Distillates (petroleum), hydrotreated light naphthenic 64742-53-6</td>
<td></td>
<td>EC50 (48h) &gt; 1000 mg/L Daphnia magna</td>
<td>LC50 (96h) &gt; 5000 mg/L Oncorhynchus mykiss ()</td>
<td></td>
</tr>
<tr>
<td>Distillates (petroleum), hydrotreated light paraffinic 64742-55-8</td>
<td>EL50 (72h) &gt; 100 mg/l (Pseudokirchneriella subcapitata - OCDE 201)</td>
<td>EL50 (48h) &gt; 10000 mg/L (Daphnia magna - OCDE 202)</td>
<td>LL50 (96h) &gt; 100 mg/l (Oncorhynchus mykiss - OCDE 203)</td>
<td></td>
</tr>
</tbody>
</table>

Chronic aquatic toxicity - Product Information
No information available.

Chronic aquatic toxicity - Component 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>Distillates (petroleum), hydrotreated light paraffinic 64742-55-8</td>
<td>NOEL (21d) 10 mg/l (Daphnia magna - OCDE 211)</td>
<td>NOEL (14/28d) &gt;1000 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
No information available.

12.3. Bioaccumulative potential

Product Information
No information available.

logPow
No information available

Component Information
No information available.

12.4. Mobility in soil

Soil
Given its physical and chemical characteristics, the product generally shows low soil mobility.

Air
Loss by evaporation is limited.

Water
Insoluble. The product spreads on the surface of the water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment
No information available.

12.6. Other adverse effects
ISOVOLTINE II

General Information
No information available.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products
Should not be released into the environment. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Where possible recycling is preferred to disposal or incineration. After use, this oil must be sent to a licensed waste oil facility. Incorrect disposal of used oil poses a risk to the environment. Mixture with other waste types such as solvents, brake- and cooling liquids is forbidden.

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No.
The following Waste Codes are only suggestions: 13 03 07. 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.

14. TRANSPORT INFORMATION

ADR/RID
Not regulated

IMDG/IMO
Not regulated

ICAO/IATA
Not regulated

ADN
Not regulated

15. REGULATORY INFORMATION

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

European Union

International Inventories
No information available

Further information

15.2. Chemical Safety Assessment
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16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
Not applicable

Full text of H-Statements referred to under sections 2 and 3
H304 - May be fatal if swallowed and enters airways

Abbreviations, acronyms

Legend  Section 8
+  Sensitizer
**  Hazard Designation
M:  Mutagen

Skin designation
C:  Carcinogen
R:  Toxic to reproduction

Revision Date: 2014-07-08
Revision Note  *** Indicates updated section.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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 fulfil 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.

End of the safety data sheet