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

1.1. Product identifier

Product name: DIEL MS 5000
Number: JV6
Pure substance/mixture: Mixture

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

Identified uses: neat metalworking oil, Spark erosion.

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'Arsonvol, 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.

DIRECTIVE 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16
The substance/mixture is classified as dangerous in accordance with Directive(s) 67/548/EEC with amendments and/or 1999/45/EC with amendments

Symbol(s)
Xn - Harmful

Classification
Xn;R65

2.2. Label elements

Labelled according to Directive 1999/45/EC

Contains Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics

R-phrase(s)
R65 - Harmful: may cause lung damage if swallowed

S-phrase(s)
S62 - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

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>Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, &lt; 0.03% aromatics</td>
<td>934-956-3</td>
<td>01-2119827000-58</td>
<td>^</td>
<td>&gt;25</td>
<td>Xn;R65</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
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 immediately with plenty of water, also under the eyelids, for at least 15 minutes.

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

Inhalation
Move to fresh air.

Ingestion
Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

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

Eye contact
Not classified. Burning feeling and temporary redness.

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

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

Ingestion
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. 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

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use CO2, dry chemical, or foam, 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

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

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
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.

There is a hazard associated with rags, paper or any other material used to remove spills which become soaked with product. Avoid accumulation of these: they are to be disposed off safely after use. Handle away from any source of ignition (open flame and sparks) and heat (hot manifolds or casings).

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended. Do not use abrasives, solvents or fuels. Avoid breathing vapors, mist or gas. Avoid prolonged and repeated contact with the skin, especially with used or waste product. 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

Keep away from food, drink and animal feedingstuffs. Keep container tightly closed. Keep in a bunded area. 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.

Strong acids, Oxidizing agents.

7.3. Specific end uses

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

oil mist : 10mg/m³, for 15 minutes; oil mist : 5mg/m³, for 8 hours

Legend

See section 16

8.2. Exposure controls
General Information

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

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 141). 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: Long sleeved clothing, Impervious gloves, Protective shoes or boots.

Hand Protection

Neoprene gloves, Nitrile rubber. 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. 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>Appearance</td>
<td>limpid</td>
<td></td>
<td></td>
</tr>
<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></td>
<td>Not applicable</td>
<td>ISO 2719</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 130 °C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 acids, Oxidizing agents.

10.6. Hazardous Decomposition Products

No information available
**Hazardous Decomposition Products**
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

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>Prolonged or repeated contact may dry skin and cause irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Not classified. Burning feeling and temporary redness.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.  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).</td>
</tr>
</tbody>
</table>

**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>Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, &lt; 0.03% aromatics</td>
<td>LD50 &gt; 5000 mg/kg bw (rat - OECD 401)</td>
<td>LD50 (24h) &gt; 3160mg/kg bw (rabbit - OECD 402)</td>
<td>LC50 (4h) &gt; 5266 mg/m³ (aerosol) (rat - OECD 403)</td>
</tr>
</tbody>
</table>

**Sensitization**

<table>
<thead>
<tr>
<th>Sensitization</th>
<th>Not classified as a sensitizer.</th>
</tr>
</thead>
</table>

**Specific effects**

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>This product is not classified carcinogenic.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutagenicity</td>
<td>This product is not classified as mutagenic.</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

| This product does not contain any known or suspected reproductive hazards. |

**Repeated Dose Toxicity**

<table>
<thead>
<tr>
<th>Subchronic toxicity</th>
<th>N/A.</th>
</tr>
</thead>
</table>
Target Organ Effects (STOT)

No information available.

Other information

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Not classified.

Acute aquatic toxicity Product Information
No information available.

Acute 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>Hydrocarbons, C15-C20, n-alkanes, isoalkanes, cyclics, &lt; 0.03% aromatics</td>
<td>ErL50 (72h) &gt; 10000 mg/l (Skeletonema costatum - ISO 10253)</td>
<td>LL50 (48h) &gt; 3193 mg/l (Acartia tonsa - ISO 14669)</td>
<td>LL50 (96h) &gt; 1028 mg/l (Scophthalmus maximus - OECD 203)</td>
<td></td>
</tr>
</tbody>
</table>

Chronic aquatic toxicity Product Information
No information available.

Chronic aquatic toxicity Component Information
No information available.

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
12.4. Mobility in soil

Soil

Given its physical and chemical characteristics, the product is generally mobile in the ground.

Water

The product is insoluble and floats on water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

No information available.

12.6. Other adverse effects

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products

Should not be released into the environment. Do not empty into drains. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of contents/container to an approved incineration plant.

Contaminated packaging

Do not re-use empty containers. 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: 12 01 07.

Other information

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

Other regulations
Directive 1999/13/EC on the limitation of emissions of volatile organic compounds

International Inventories

EINECS/ELINCS -
TSCA -
DSL -
ENCS -
IECSC -
KECL -
PICCS -
AICS -
NZIoC -

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
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

Further information

15.2. Chemical Safety Assessment

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R65 - Harmful: may cause lung damage if swallowed
SDS #: 32110

DIEL MS 5000

Revision Date: 2012-06-08

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

Abbreviations, acronyms

Legend  Section 8
+  Sensitizer
*  Skin designation
**  Hazard Designation
C:  Carcinogen
M:  Mutagen
R:  Toxic to reproduction

Revision Date: 2012-06-08
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 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.

End of the safety data sheet