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

1.1. Product identifier

Product name: BIOADHESIVE PLUS
Number: 0B2
Pure substance/mixture: Mixture

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

Identified uses: Lubricating grease.

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 : Hôpital 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 not classified as dangerous according to Regulation (EC) No. 1272/2008***

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

Symbol(s)
Not classified

2.2. Label elements

Labelled according to
Not classified/No labelling required***

Hazard Statements
***none***

Precautionary Statements
none***

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

Chemical nature
The product is made from synthetic base oils (esters).

Hazardous ingredients
Do not contain hazardous substance nor substance with European workplace exposure limits in concentration above regulatory thresholds

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 immediately with plenty of water and seek medical advice.

Skin contact
Remove contaminated clothing and shoes. Wash off with soap and water. Wash contaminated clothing before reuse. High pressure jets may cause skin damage. Take victim immediately to hospital.***

Inhalation
Move to fresh air.
Ingestion If swallowed, do not induce vomiting - seek medical advice.

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 Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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 Carbon dioxide (CO₂). ABC powder. 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 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). Collect free product with suitable mechanical means. 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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1. Control parameters

Exposure limits

Do not contain substance with European workplace exposure limits in concentration above regulatory thresholds***

Legend

See section 16

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

None under normal use conditions. In case of vapours and aerosol formation: Respirator with combination filter for vapour/particulate (EN 14387). 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. 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>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>smooth</td>
</tr>
<tr>
<td>Color</td>
<td>brown</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>solid</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
</tbody>
</table>
9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td></td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>850 kg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td></td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td></td>
<td>Soluble in many common organic solvents</td>
<td></td>
</tr>
<tr>
<td>logPow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td></td>
<td>Not explosive</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td></td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td></td>
<td>Not applicable</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 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 Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Acute toxicity - Component Information

Sensitization

Sensitization Not classified as a sensitizer.

Specific effects

Carcinogenicity This product is not classified carcinogenic.

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)

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.
SDS #: 080241

BIOADHESIVE PLUS

Revision Date: 2014-03-28
Version 2

**Acute aquatic toxicity - Product Information**

No information available.

**Acute aquatic toxicity - Component Information**

No information available.

**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**

Readily biodegradable (>60% after 28 days).

OECD 301 B.

### 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 has no soil mobility.

**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
Dispose of in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

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: 12 01 12. 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

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

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
**Further information**

### 15.2. Chemical Safety Assessment

**Chemical Safety Assessment**

No information available

### 16. OTHER INFORMATION

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

Not applicable

**Abbreviations, acronyms**

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

**Revision Date:** 2014-03-28

**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**