SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ALTIS EM 2

SDS # : 30558

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name          ALTIS EM 2
Number                1JB
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 UK LIMITED
One Euston Square
40 Melton Street. London. NW1 2FD
UNITED KINGDOM
Tel: +44 (0)20 7339 8000
Fax: +44 (0)20 7339 8033

For further information, please contact:

Contact Point: Specific Product Related Info : 01977 636200
E-mail Address: rm.gb-msds@total.co.uk

1.4. Emergency telephone number

00 33 149 00 00 49 (24h/24, 7d/7)
TOTAL UK ltd: + 44 (0) 20 7339 8000
For Lubricants only: TOTAL Lubricants - +44 (0)1977 636200
For bitumen only: Total Bitumen -+44 (0) 17 7272 9302

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
The product is not classified as dangerous according to Regulation (EC) No. 1272/2008

DIRECTIVE 67/548/EEC or 1999/45/EC
ALTIS EM 2

SDS # : 30558
Revision Date: 2015-04-15
Version 3

For the full text of the R-phrases 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
Labeled according to REGULATION (EC) No 1272/2008***

Hazard Statements *** None***

Precautionary statements None***

Contains Reaction mass of 1H-Benzotriazole-1-methanamine, N,N-bis(2-ethylhexyl)-6-methyl- and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-5-methyl- and N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine and 2H-Benzotriazole-2-methanamine, N,N-bis(2-ethylhexyl)-4-methyl- and N,N-bis(2-ethylhexyl)-5-methyl-1H-benzotriazole-1-methylamine; (1-[N,N-BIS-(ETHYL-2HEXYL)AMINOMETHYL]TOLUTRIAZOLE) May produce an allergic reaction***

2.3. Other hazards
Environmental properties Contaminated surfaces will be extremely slippery.***

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture***

Hazardous components Do not contain hazardous substance nor substance with european workplace exposure limits in concentration above regulatory thresholds***

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.

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.
Skin contact
Remove contaminated clothing and shoes. Wash skin 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
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

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

Eye contact
Not classified.

Skin contact
Not classified. May produce an allergic reaction. 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 vapours in high concentration may cause irritation of respiratory system.

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

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
Carbon dioxide (CO$_2$). 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. Precautions 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.

Section 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-combustable 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.

Section 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 vapours 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. Preferably keep in the original container. Otherwise, reproduce all the statutory information from the labels onto 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 oxidising agents.

7.3. Specific use(s)

Specific use(s)

No information available.***

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

Mineral oil mist:
USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)
***

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. 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/P1. 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, 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
The product should not be allowed to enter drains, water courses or the soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Remarks</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical state @20°C</td>
<td>solid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odour</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>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</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>Vapour pressure</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapour density</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>900 kg/m³ @ 20 °C</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</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>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Not applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2. Other information

Drop point > 240

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity
General Information No information available.***

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 oxidising 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.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity  Local effects  Product Information

Skin contact  Not classified. May produce an allergic reaction. 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 vapours in high concentration may cause irritation of respiratory system.

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

Acute toxicity - Component Information

Sensitisation

Sensitisation  Not classified as a sensitizer. Contains sensitizer(s). May produce an allergic reaction.

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 (oil blisters) may develop following prolonged and repeated exposures (contact with contaminated clothing).

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Not classified.

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
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 has no soil mobility.

Air
Loss by evaporation is limited.

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

General Information  No information available.

Section 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.*** |
| 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. |

Section 14: TRANSPORT INFORMATION

ADR/RID  not regulated
IMDG/IMO  not regulated
ICAO/IATA  not regulated
ADN  not regulated

Section 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

No information available***

15.2. Chemical Safety Assessment

Chemical Safety Assessment  No information available

15.3. National regulatory information

The United Kingdom

• Avoid exceeding occupational exposure limits (see section 8).

Ireland

• Avoid exceeding occupational exposure limits (see section 8).

Section 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
Not applicable***

Abbreviations, acronyms

Legend  Section 8
TWA: Time Weight Average
STEL: Short Time Exposure Limit

+  Sensitiser
**  Hazard Designation
M: Mutagen

*  Skin designation
C: Carcinogen
R: Toxic to reproduction

Revision Date:  2015-04-15
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 Safety Data Sheet