



SAFETY DATA SHEET

Terrain LS 80W-90

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|---------------------------|-------------------|
| Product name | Terrain LS 80W-90 |
| Product number | 7090 |
| Internal identification | 21427 |
| REACH registration number | n/a Mixture |

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

| | |
|----------------------|--|
| Identified uses | Off highway limited slip differentials |
| Uses advised against | Non specified unless otherwise stated within this MSDS |

1.3. Details of the supplier of the safety data sheet

| | |
|----------|---|
| Supplier | Morris Lubricants Castle Foregate Shrewsbury SY1 2EL 08.45 - 17.00 GMT T: (+44)(0)1743 232200 F: (+44)(0)1743 353584 sds@morris-lubricants.co.uk |
|----------|---|

1.4. Emergency telephone number

| | |
|---------------------|---------------------------------------|
| Emergency telephone | +44(0)1743 232200 (08.45 - 17.00 GMT) |
|---------------------|---------------------------------------|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

| | |
|-----------------------|--------------------------|
| Physical hazards | Not Classified |
| Health hazards | Skin Sens. 1 - H317 |
| Environmental hazards | Aquatic Chronic 3 - H412 |

Classification (67/548/EEC or 1999/45/EC) Not Classified

2.2. Label elements

Pictogram



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| | |
|---------------------------------------|---|
| Signal word | Warning |
| Hazard statements | H317 May cause an allergic skin reaction. H412 Harmful to aquatic life with long lasting effects. |
| Precautionary statements | P501a Dispose of contents/container to hazardous or special waste collection point. |
| Supplemental label information | EUH210 Safety data sheet available on request. |
| Contains | Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl, Oleylamine |

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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| Residual oils (petroleum), hydrotreated | 30-60% |
| CAS number: 64742-70-7 | REACH registration number: 01-2119480472-38-XXXX |
| A petroleum product. DMSO extract < 3 % weight (IP 346) | |
| Classification Not Classified | Classification (67/548/EEC or 1999/45/EC) - |
| Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic | 30-60% |
| CAS number: 64742-54-7 | EC number: 265-157-1 |
| | REACH registration number: 01-2119484627-25-XXXX |
| Classification Not Classified | Classification (67/548/EEC or 1999/45/EC) - |
| Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl | 1-5% |
| CAS number: — | EC number: 931-384-6 |
| | REACH registration number: 01-2119493620-38-XXXX |
| Classification Acute Tox. 4 - H302 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411 | Classification (67/548/EEC or 1999/45/EC) Xn;R22. Xi;R41. N;R51/53. R43. |

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Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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

General information If aspiration into the lungs is suspected, eg when vomiting, admit to hospital immediately.

Inhalation Upper respiratory irritation.

Ingestion May cause discomfort if swallowed. The product contains mineral oil, which if aspirated into the lungs through vomiting after ingestion, may result in chemical pneumonia.

Skin contact Prolonged contact may cause redness, irritation and dry skin.

Eye contact Irritation of eyes and mucous membranes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Heat from fire could result in drums bursting

Hazardous combustion products Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. Oxides of carbon. Oxides of nitrogen. Fire may also create other unidentified organic gases some of which may be toxic.

5.3. Advice for firefighters

Protective actions during firefighting Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions For personal protection, see Section 8. In case of spills, beware of slippery floors and surfaces.

6.2. Environmental precautions

Environmental precautions Contain spillage with sand or earth. Avoid the spillage or runoff entering drains, sewers or watercourses. The product is insoluble in water and will spread on the water surface.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Contain spillage with sand or earth. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Avoid water contacting spilled material or leaking containers. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. In case of spillage on water prevent the spread by use of suitable barrier equipment

6.4. Reference to other sections

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Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Miscellaneous hazardous material storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Residual oils (petroleum), hydrotreated

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Base oil - Unspecified - Distillates (Petroleum), hydrotreated Heavy Paraffinic

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

METHANOL

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 266 mg/m³(Sk)

Short-term exposure limit (15-minute): WEL 250 ppm(Sk) 333 mg/m³(Sk)

ACGIH = American Conference of Governmental Industrial Hygienists.

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Use barrier creams to prevent skin contact.

Hygiene measures

Use engineering controls to reduce air contamination to permissible exposure level. Wash promptly with soap and water if skin becomes contaminated.

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| Respiratory protection | No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. |
| Thermal hazards | Not anticipated under normal conditions of use. The product is combustible if heated excessively and an ignition source is applied. |
| Environmental exposure controls | Do not allow product to contaminate land. |

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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|---|---|
| Appearance | Liquid. |
| Colour | Amber. to Brown. |
| Odour | Characteristic. Oil-like. |
| Odour threshold | Not known. |
| pH | Not applicable. |
| Melting point | Not determined. |
| Initial boiling point and range | >320°C @ 101.3 kPa |
| Flash point | 155°C PMCC (Pensky-Martens closed cup). |
| Evaporation rate | Not relevant. |
| Upper/lower flammability or explosive limits | Not known. |
| Other flammability | Product is not flammable but on excessive heating may become combustible. |
| Vapour pressure | <0.1 kPa @ 20°C |
| Vapour density | Not determined. |
| Relative density | 0.900 @ 15.6°C |
| Solubility(ies) | Insoluble in water. Soluble in the following materials: Organic solvents. |
| Partition coefficient | Not determined. log Kow: > 7 This figure is typical of mineral oil. |
| Auto-ignition temperature | No specific test data are available. |
| Decomposition Temperature | Not determined. |
| Viscosity | 169 cSt @ 40°C |
| Explosive properties | Not considered to be explosive. |
| Explosive under the influence of a flame | Not considered to be explosive. |
| Oxidising properties | The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising. |

9.2. Other information

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| Volatile organic compound | The product is a complex mixture, the majority of which would not be classed as a VOC. However it cannot be discounted that trace or low levels of VOC's may be present. |
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SECTION 10: Stability and reactivity

10.1. Reactivity

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Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Unlikely to occur under normal conditions of use. Unlikely to occur.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Not expected to be highly toxic based on information of ingredients. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not determined. The product is unlikely to present any significant inhalation hazard at ambient temperatures and under normal conditions of use.

Serious eye damage/irritation

Serious eye damage/irritation May cause mild, short lasting discomfort to eyes.

Respiratory sensitisation

Respiratory sensitisation No evidence to suggest the product will be a respiratory sensitiser. Repeated exposure to oil mists may cause respiratory damage.

Skin sensitisation

Skin sensitisation Not expected to be a skin sensitizer based on information on components.

Carcinogenicity

Carcinogenicity This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP346 test

Reproductive toxicity

Reproductive toxicity - fertility No data available to suggest the product will cause reproductive toxicity.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

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Aspiration hazard

Aspiration hazard

Kinematic viscosity > 20.5 mm²/s. The product viscosity is greater than the upper limit assigned for classification. Although not classified, the product contains mineral oil. If aspirated into the lungs e.g. through vomiting after ingestion, admit to hospital immediately.

General information

This product has low toxicity. Only large quantities are likely to have adverse effects on human health.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.

Eye contact

May cause temporary eye irritation.

Acute and chronic health hazards

Prolonged or repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

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SECTION 12: Ecological Information

Ecotoxicity Based on available data the classification criteria are not met. Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met. Not considered toxic to fish.

Acute toxicity - aquatic invertebrates Based on available data the classification criteria are not met.

12.2. Persistence and degradability

Persistence and degradability The product contains mineral oil which has limited biodegradability in CEC test methods but will biodegrade slowly in aerobic water and sediments and is considered ultimately biodegradable.

Stability (hydrolysis) The product is based on highly refined mineral oils that are considered stable to hydrolysis.

Biodegradation The product is not considered readily biodegradable, albeit the major constituents are expected to ultimately biodegrade.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient Not determined. log Kow: > 7 This figure is typical of mineral oil.

12.4. Mobility in soil

Mobility The product is non-volatile. The product is insoluble in water and will spread on the water surface.

Henry's law constant Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information This material and its container must be disposed of as hazardous waste. Dispose of waste via a licensed waste disposal contractor.

Disposal methods Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Dispose of waste via a licensed waste disposal contractor.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

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Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Not applicable.

**Annex II of MARPOL 73/78
and the IBC Code**

SECTION 15: Regulatory information

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

National regulations

Health and Safety at Work etc. Act 1974 (as amended).
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
Control of Substances Hazardous to Health Regulations 2002 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].

EU legislation

Dangerous Preparations Directive 1999/45/EC.
Dangerous Substances Directive 67/548/EEC.
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance

Workplace Exposure Limits EH40.
Safety Data Sheets for Substances and Preparations.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

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Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

| | |
|----------------------------------|---|
| Revision comments | NOTE: Lines within the margin indicate significant changes from the previous revision. |
| Revision date | 30/11/2015 |
| Revision | 2 |
| Supersedes date | 30/11/2015 |
| SDS number | 21427 |
| Hazard statements in full | <p>H225 Highly flammable liquid and vapour. H301 Toxic if swallowed. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H331 Toxic if inhaled. H335 May cause respiratory irritation. H370 Causes damage to organs . H373 May cause damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.</p> |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.