



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	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	Morris Lubricants Castle Foregate Shrewsbury Shropshire SY1 2EL +44 (0) 1743 232200 +44 (0) 1743 353584 sds@morris-lubricants.co.uk
Manufacturer	MORRIS LUBRICANTS Castle Foregate Shrewsbury Shropshire SY1 2EL UK +44 (0) 1743 232200 +44 (0) 1743 353584 sds@morris-lubricants.co.uk

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

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

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Hazard pictograms



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

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

Residual oils (petroleum), hydrotreated			30-60%
CAS number: 64742-62-7	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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Reaction products of alcohols, C14-18, C18 unsat, esterified with phosphorus pentoxide and salted with amines, C12-14, -tert-alkyl			1-5%
CAS number: —	EC number: 939-591-3	REACH registration number: 01-2119978530-33-XXXX	
Classification Aquatic Chronic 3 - H412	Classification (67/548/EEC or 1999/45/EC) R52/53.		

Mineral Oil			1-5%
CAS number: —			
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -		

Oleylamine			<1%
CAS number: 112-90-3	EC number: 204-015-5		
M factor (Acute) = 1	M factor (Chronic) = 1		
Classification Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 STOT RE 2 - H373 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) Xn;R22,R48/22. C;R34. Xi;R37. N;R50/53.		

METHANOL			<1%
CAS number: 67-56-1	EC number: 200-659-6	REACH registration number: 01-2119433307-44-0000	
Classification Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 - H331 STOT SE 1 - H370	Classification (67/548/EEC or 1999/45/EC) F;R11 T;R23/24/25,R39/23/24/25		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues.
Inhalation	If spray/mist has been inhaled, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Get medical attention if any discomfort continues. Do not induce vomiting.

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Skin contact Remove contaminated clothing immediately and wash skin with soap and water.

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

Inhalation Upper respiratory irritation.

Ingestion 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.

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. Take care as floors and other surfaces may become slippery. Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Methods for cleaning up In case of spillage on water prevent the spread by use of suitable barrier equipment. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

6.4. Reference to other sections

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

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7.1. Precautions for safe handling

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

Mineral Oil

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

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/manufacture, who can provide information about the breakthrough time of the glove material.

Hygiene measures

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

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.

SECTION 9: Physical and chemical properties

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9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	to Brown.
Odour	Oil-like.
Odour threshold	Not known.
Melting point	Not determined.
Initial boiling point and range	>320°C @ 101.3 kPa
Flash point	155°C 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.
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 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

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 VOCs may be present.
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SECTION 10: Stability and reactivity

10.1. Reactivity

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

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

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

Materials to avoid	Strong oxidising agents.
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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) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) 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 Repeated exposure to oil mists may cause respiratory damage. There is no evidence that the product can cause respiratory hypersensitivity.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

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.

Aspiration hazard

Aspiration hazard 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.

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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 aquatic toxicity

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

12.2. Persistence and degradability

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 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

Disposal methods 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

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

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14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 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).
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"].
EH40/2005 Workplace exposure limits.

EU legislation

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/NDL

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.

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.

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New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. CAS: Chemical Abstracts Service. DNEL: Derived No Effect Level. GHS: Globally Harmonized System. IATA: International Air Transport Association. IMDG: International Maritime Dangerous Goods. REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. vPvB: Very Persistent and Very Bioaccumulative.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Issued by	Regulatory Affairs
Revision date	21/01/2020
Revision	3
Supersedes date	30/11/2015
SDS number	21427
Hazard statements in full	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.

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