



SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture Red Line® 80W140 High Performance Gear Oil
Registration number -
Synonyms None.
SDS number 830000
Issue date 30-December-2016
Version number 01
Revision date -
Supersedes date -

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

Identified uses Automotive Gear Oil.
Uses advised against All other uses.

1.3. Details of the supplier of the safety data sheet

Manufacturer / Supplier

Company name RED LINE SYNTHETIC OIL CORP.
Address 6100 Egret Court, Benicia, CA 94510, USA
SDS Information
Telephone number +1-707-745-6100
Technical Information
Telephone number +1-707-745-6100

1.4. Emergency telephone number

CHEMTREC UK +(44)-870-8200418 & 1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Serious eye damage/eye irritation Category 2 H319 - Causes serious eye irritation.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard Category 2 H411 - Toxic to aquatic life with long lasting effects.

Hazard summary Causes serious eye irritation. Dangerous for the environment if discharged into watercourses.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Hazard pictograms



Signal word Warning

Hazard statements

H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.

Response

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/attention.

P391

Collect spillage.

Storage

Store away from incompatible materials.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

EUH208 - Contains Polysulphides, di-tert-Bu, Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched). May produce an allergic reaction.

2.3. Other hazards

Not a PBT or vPvB substance or mixture. Prolonged and repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Reaction products of diphosphorus pentaoxide and alcohol C7-9-iso, C8 rich, salted with 2-ethylhexylamine	1 - < 3	N/A	-	-	
Classification:	Eye Dam. 1;H318				
Polysulphides, di-tert-Bu	1 - < 2.5	68937-96-2 273-103-3	01-2119540515-43-XXXX	-	
Classification:	Skin Sens. 1B;H317, Aquatic Chronic 3;H412				
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)	1 - < 2.5	- 931-384-6	01-2119493620-38-XXXX	-	
Classification:	Acute Tox. 4;H302, Skin Sens. 1;H317, Eye Dam. 1;H318, Aquatic Chronic 2;H411				
Oleylamine	< 1	112-90-3 204-015-5	-	612-283-00-3	M=10
Classification:	Acute Tox. 4;H302, Asp. Tox. 1;H304, Skin Corr. 1B;H314, Eye Dam. 1;H318, STOT SE 3;H335, STOT RE 2;H373, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				

List of abbreviations and symbols that may be used above

M: M-factor

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The full text for all H-statements is displayed in section 16. Components not listed are either non-hazardous or are below reportable limits.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms persist.

Skin contact

Remove contaminated clothing and wash skin with soap and water. If skin irritation occurs, get medical advice/attention. If high pressure injection under the skin occurs, always seek medical attention.

Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. If irritation persists: Continue flushing during transport to hospital. Take along these instructions.

Ingestion

Rinse mouth. Get medical attention if any discomfort continues.

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

Prolonged or repeated contact may dry skin and cause irritation. Irritation of eyes and mucous membranes. Symptoms include itching, burning, redness, and tearing of eyes. Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.

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

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards	The product is not flammable. Will burn if involved in a fire.
5.1. Extinguishing media	
Suitable extinguishing media	Dry chemical, CO ₂ , water spray or regular foam.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
5.2. Special hazards arising from the substance or mixture	Combustion products include: Carbon monoxide, carbon dioxide, various hydrocarbon fragments as well as thick smoke. Oxides of Sulfur, Phosphorus and Nitrogen may also be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Cool containers exposed to heat with water spray and remove container, if no risk is involved.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Provide adequate ventilation. Keep unnecessary personnel away.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Prevent spillage entering a watercourse or sewer, contaminating soil or vegetation. If this is not possible notify police and appropriate authorities immediately.
6.3. Methods and material for containment and cleaning up	Liquid spilled on the ground: Contain the liquid if possible. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Liquid spread on water surface: Confine the spill with booms. Remove from water surface by skimming or with suitable absorbents. Transfer to a container for disposal. Clean up in accordance with all applicable regulations. Local authorities should be advised if significant spillages cannot be contained.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Wear necessary protective equipment. Avoid inhalation of vapours and contact with skin and eyes. In case of spills, beware of slippery floors and surfaces. Observe good industrial hygiene practices. Wash thoroughly after handling.
7.2. Conditions for safe storage, including any incompatibilities	"Empty" containers retain product residue (liquid or vapour) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death. Keep container tightly closed in a dry and well-ventilated place. Protect against physical damage. Store away from incompatible materials.
7.3. Specific end use(s)	Automotive Gear Oil.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters	
Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General Population

Components	Value	Assessment factor	Notes
Polysulphides, di-tert-Bu (CAS 68937-96-2)			
Long-term, Systemic, Dermal	1.66 mg/kg	600	
Long-term, Systemic, Inhalation	2.6 mg/m ³	50	

Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) (CAS -)

Long-term, Local, Dermal	0.024 mg/kg	
Long-term, Systemic, Dermal	6.25 mg/kg	240
Long-term, Systemic, Inhalation	2.2 mg/m ³	60
Long-term, Systemic, Oral	0.25 mg/kg	600

Workers

Components	Value	Assessment factor	Notes
Polysulphides, di-tert-Bu (CAS 68937-96-2)			
Long-term, Systemic, Dermal	3.33 mg/kg	300	
Long-term, Systemic, Inhalation	14.5 mg/m ³	25	
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) (CAS -)			
Long-term, Systemic, Dermal	12.5 mg/kg	120	
Long-term, Systemic, Inhalation	8.56 mg/m ³	30	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Polysulphides, di-tert-Bu (CAS 68937-96-2)			
Freshwater	0.24 µg/l	1000	
Marine water	0.024 µg/l	10000	
Secondary poisoning	6.66 mg/kg	300	Food
Sediment (freshwater)	0.94 mg/kg		
Sediment (marine water)	0.094 mg/kg		
Soil	1513 mg/kg		
STP	4.51 mg/l	10	
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) (CAS -)			
Freshwater	0.001 mg/l	100	
Intermittent releases	0.085 mg/l	100	
Marine water	0.12 µg/l	1000	
Sediment (freshwater)	14.4 mg/kg	2608	
Sediment (marine water)	1.44 mg/kg	260.8	
STP	24.33 mg/l	100	

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation and minimise the risk of inhalation of vapours and mists.

Individual protection measures, such as personal protective equipment

General information	Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Eye/face protection	It is a good industrial hygiene practice to minimise eye contact. Wear approved safety glasses or goggles.
Skin protection	
- Hand protection	Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
- Other	Wear suitable protective clothing.
Respiratory protection	No protection is ordinarily required with adequate ventilation. In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P2) can be used.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Environmental exposure controls Contain spills and prevent releases and observe national regulations on emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Colour	Amber.

Odour	Slight hydrocarbon.
Odour threshold	No data available.
pH	Not applicable.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	138.0 °C (280.4 °F) Pensky-Martens Closed Cup (ASTM D-93, EPA 1010)
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	No data available.
Explosive limit – upper (%)	No data available.
Vapour pressure	< 1 mm Hg
Vapour density	> 1 (Air = 1)
Relative density	0.9 (15.6°C)
Solubility(ies)	Negligible in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	25.9 cSt (100°C) 212.8 cSt (40°C)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	
Bulk density	7.5 lb/gal
Particle size	Not applicable.
Percent volatile	No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	The product is stable under normal conditions of use, storage and transport.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	High temperatures. Ignition sources.
10.5. Incompatible materials	Strong oxidising agents. Strong reducing agents.
10.6. Hazardous decomposition products	None expected under normal conditions of use.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.
Skin contact	May cause mild skin irritation. Repeated exposure may cause skin dryness or cracking.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms	Prolonged or repeated contact may dry skin and cause irritation. Irritation of eyes and mucous membranes. Symptoms include itching, burning, redness and tearing. Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.

11.1. Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Product	Species	Test results
Red Line® 80W140 High Performance Gear Oil (CAS Mixture)		
Acute		
Dermal		
LD50		> 2 g/kg (Estimated)
Inhalation		
<i>Mist</i>		
LC50		> 5 mg/l (Estimated)
Oral		
LD50		> 5 g/kg (Estimated)
Skin corrosion/irritation	May cause mild skin irritation. Repeated exposure may cause skin dryness or cracking.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitisation	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Skin sensitisation	The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals in contact with skin.	
Germ cell mutagenicity	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Carcinogenicity	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Reproductive toxicity	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Specific target organ toxicity - single exposure	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Specific target organ toxicity - repeated exposure	No information available on the mixture. However, none of the components are classified in respect of this hazard (or are present at a level below the concentration threshold for classification).	
Aspiration hazard	Not classified.	
Mixture versus substance information	None known.	
Other information	Base oils in this material are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as Modified Ames Test, IP-346, and/or other analytical methods.	

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Polysulphides, di-tert-Bu (CAS 68937-96-2)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Algae > 100 mg/l, 72 hours
Crustacea	EC50	Daphnia 63 mg/l, 48 hours
Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) (CAS -)		
Aquatic		
<i>Acute</i>		
Algae	EC50	Green algae 6.4 mg/l, 96 hours
	NOEC	Green algae 1.7 mg/l, 96 hours
Crustacea	EC50	Daphnia 91.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 8.5 mg/l, 96 hours
		Rainbow trout 24 mg/l, 96 hours

Components		Species	Test results
	NOEC	Rainbow trout	32 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	EC50	Daphnia	0.66 mg/l, 21 days
	NOEC	Daphnia	0.12 mg/l, 21 days

12.2. Persistence and degradability The product is not readily biodegradable. Expected to be inherently biodegradable.

12.3. Bioaccumulative potential The product is not expected to bioaccumulate.

Partition coefficient n-octanol/water (log Kow) No data available.

Polysulphides, di-tert-Bu (CAS 68937-96-2) 5.6, (20 °C)

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Expected to have low mobility in soil and sediments with adsorption being the predominant physical process.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Oil spills are generally hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Recover and recycle, if practical. Contact specialist disposal companies.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code 13 02 06*
Waste codes should be assigned by the user based on the application for which the product was used.

Disposal methods/information Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN3082

14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Oleylamine)

14.3. Transport hazard class(es)

Class 9

Subsidiary risk -

Label(s) 9

Hazard No. (ADR) 90

Tunnel restriction code E

14.4. Packing group III

14.5. Environmental hazards Yes.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN3082

14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Oleylamine)

14.3. Transport hazard class(es)

Class 9

Subsidiary risk -

Label(s) 9

14.4. Packing group III

14.5. Environmental hazards Yes.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN3082

14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Oleylamine)

14.3. Transport hazard class(es)

Class 9

Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Oleylamine)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	Yes.
ERG Code	9L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN3082
14.2. UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Oleylamine)
14.3. Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes.
EmS	F-A, S-F
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not relevant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Oleylamine (CAS 112-90-3)

Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended. The product is classified and labelled in accordance with EC directives or respective national laws.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.
EC50: Effective Concentration 50%.
NOEC: No observed effect concentration.

References

ECHA CHEM

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
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.

Training information

Follow training instructions when handling this material.

Further information

No information available.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.