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® Limited-Slip Differential Friction Modifier/Break-in Additive
Registration number	-
Synonyms	None.
SDS number	828926
Issue date	30-November-2016
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Friction modifier.
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

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

2.2. Label elements

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

Hazard pictograms	None.
Signal word	None.
Hazard statements	The mixture does not meet the criteria for classification.

Precautionary statements

Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.

Supplemental label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

The components are not hazardous or are below required disclosure 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. Get medical attention if irritation develops and persists. If high pressure injection under the skin occurs, always seek medical attention.

Eye contact Flush eyes with water as a precaution. Get medical attention if irritation develops or persists.

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. 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. This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

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, CO2, 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. For personal protection, see 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. Observe good industrial hygiene practices. Wash thoroughly after handling. 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. In case of spills, beware of slippery floors and surfaces.

"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. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or promptly disposed of.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Do not handle or store near an open flame, heat or other sources of ignition. Protect against physical damage. Store away from incompatible materials.

7.3. Specific end use(s)

Friction modifier.

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)

Not available.

Predicted no effect concentrations (PNECs)

Not available.

Exposure guidelines

Follow standard monitoring procedures.

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation and minimise the risk of inhalation of vapours and oil mist.

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

Not available.

pH

Not applicable.

Melting point/freezing point

Not available.

Initial boiling point and boiling range	Not available.
Flash point	> 150.0 °C (> 302.0 °F) Pensky-Martens Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	> 1 (Air = 1)
Relative density	0.901
Relative density temperature	15.6 °C (60.08 °F)
Solubility(ies)	Insoluble in water.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	6.7 cSt (100°C) 28.3 cSt (40°C)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	
Bulk density	7.5 lb/gal

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	Health injuries are not known or expected under normal use.
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	Prolonged or frequent contact may cause redness, itching, irritation, eczema/chaps and oil acne.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms	Prolonged or repeated contact may dry skin and cause irritation. 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® Limited-Slip Differential Friction Modifier/Break-in Additive (CAS Mixture)		
Acute		
Dermal		
LD50		> 2 g/kg, (Estimated)
Inhalation		
LC50		> 5 mg/l, (Estimated)

Product	Species	Test results
Oral		
LD50		> 5 g/kg, (Estimated)

Skin corrosion/irritation	Prolonged or repeated contact may dry skin and cause irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary 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	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).
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	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
12.2. Persistence and degradability	Not readily degradable. Expected to be inherently biodegradable.
12.3. Bioaccumulative potential	Has the potential to bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	No data available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	The product is insoluble or slightly soluble in water. Expected to partition to sediment and wastewater solids. Minimally volatile. The main fate process is expected to be slow biodegradation of the hydrocarbon components.
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. DO NOT pressurise, cut, heat or weld containers; they may explode and cause injury or death. Empty product containers may contain product residue. DO NOT reuse empty containers without commercial cleaning or reconditioning. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
EU waste code	13 02 05* 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. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

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

Not listed.

Other regulations This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended. This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

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

LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.

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	None.
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.