SAFETY DATA SHEET

Molylube SF 100 Semi-Synthetic Open Gear Lubricant Medium



Section 1. Identification

Product identifier	: Molylube SF 100 Semi-Synthetic Open Gear Lubricant Medium
Product code	: 301344150004
Other means of identification	: Not available.
Product type	: Liquid.

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

Identified uses		
Not available.		
Uses advised against	Reason	
None known.		

Company name Address	Calumet Branded Products, LLC - 2780 Waterfront Pkwy E. Dr., Suite 200 Indianapolis, IN 46214 USA
	Technical Services 317-328-5660
	24 hrCHEMTREC 1-800-424-9300/ International 1-703-527-3887
Importer	Statewide Bearings 67 Kewdale Rd, Kewdale WA 6105 PO Box 205, WELSHPOOL DC WA 6986 Technical Services (During Normal Business Hours): (08) 9248 2381 24 hr. CHEMTREC Australia: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture	: EYE IRRITATION - Category 2A SKIN SENSITISATION - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
	Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 48.8% Percentage of the mixture consisting of ingredient(s) of unknown acute dermal
	toxicity: 51.5% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 54%
	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 47.8%
GHS label elements	
Hazard pictograms	
Signal word	: WARNING
Hazard statements	: Causes serious eye irritation. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects.
Precautionary statements	
Prevention	: Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Avoid breathing vapour. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Section 2. Hazard(s) identification

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Response	:	IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	1	Not applicable.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	Not applicable.
Other hazards which do not	:	None known.

result in classification

Section 3. Composition and ingredient information

Substance/mixture	: Mixture
Other means of	: Not available.
identification	

Ingredient name	% (w/w)	CAS number
Paraffin oils (petroleum), catalytic dewaxed heavy	≥10 - ≤30	64742-70-7
Distillates (petroleum), hydrotreated heavy naphthenic	≥10 - ≤30	64742-52-5
Natural graphite	≤10	7782-42-5
carbon black	≤3	1333-86-4
(benzoato-O,O')hydroxy(octadecanoato-O,O')aluminium	≤3	54326-11-3
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	≤3	72676-55-2
molybdenum disulphide	≤3	1317-33-5
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu) esters, zinc salts	<3	68442-22-8

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	 Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion	: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and ge medical attention immediately. Maintain an open airway. Loosen tight clothing suc as a collar, tie, belt or waistband.
Most important symptoms/	ffects, acute and delayed
Potential acute health effe	<u>cts</u>
Eye contact	: Causes serious eye irritation.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.
Over-exposure signs/sym	<u>otoms</u>
Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	 Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.
Indication of immediate me	dical attention and special treatment needed, if necessary
Notes to physician	: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

	metal oxide/oxides		
Hazardous thermal decomposition products	: Decomposition products may include the following materia carbon dioxide carbon monoxide nitrogen oxides sulfur oxides	IS.	
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the This material is harmful to aquatic life with long lasting effect contaminated with this material must be contained and predischarged to any waterway, sewer or drain.	ects. Fire water evented from being	t.
Unsuitable extinguishing media	: Do not use water jet.		
Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire	Э.	
Extinguishing media			

Section 5. Firefighting measures

Special protective actions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protect	ve equipment and emergency procedures
For non-emergency personnel	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmenta pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
Methods and material for cor	ainment and cleaning up
Small spill	: Stop leak if without risk. Move containers from spill area. Dilute with water and mo up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage,	: Store in accordance with local regulations. Store in original container protected
including any	from direct sunlight in a dry, cool and well-ventilated area, away from incompatible
incompatibilities	materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully
	resealed and kept upright to prevent leakage. Do not store in unlabelled containers.
	Use appropriate containment to avoid environmental contamination. See Section 10
	for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Paraffin oils (petroleum), catalytic dewaxed heavy	Safe Work Australia (Australia, 4/2018).
	TWA: 5 mg/m ³ 8 hours. Form: Mist
Distillates (petroleum), hydrotreated heavy naphthenic	Safe Work Australia (Australia, 4/2018).
	TWA: 5 mg/m ³ 8 hours. Form: Mist
Natural graphite	Safe Work Australia (Australia, 4/2018).
	TWA: 3 mg/m ³ 8 hours. Form: Respirable dust
carbon black	Safe Work Australia (Australia, 4/2018).
	TWA: 3 mg/m ³ 8 hours.
(benzoato-O,O')hydroxy(octadecanoato-O,O')aluminium	Safe Work Australia (Australia, 4/2018).
	TWA: 2 mg/m^3 , (as AI) 8 hours.
molybdenum disulphide	Safe Work Australia (Australia, 4/2018).
	TWA: 10 mg/m³, (as Mo) 8 hours.
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu)	DFG MAC-values list (Germany, 7/2019).
esters, zinc salts	TWA: 2 mg/m ³ 8 hours. Form: Inhalable
	fraction
	PEAK: 4 mg/m ³ , 4 times per shift, 15
	minutes. Form: Inhalable fraction
	PEAK: 0.4 mg/m ³ , 4 times per shift, 15
	minutes. Form: Respirable fraction TWA: 0.1 mg/m ³ 8 hours. Form: Respirable
	fraction

Appropriate engineering controls Environmental exposure controls		Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
Individual protection measure	<u>)</u>	
Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection		

Section 8. Exposure controls and personal protection

Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	 Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	 Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

<u>Appearance</u>		
Physical state	Liquid. [Viscous liquid. Paste.]	
Colour	Black.	
Odour	Not available.	
Odour threshold	Not available.	
рН	Not available.	
Melting point	Not available.	
Boiling point	360°C (680°F)	
Flash point	Closed cup: 262°C (503.6°F) [Pensky-Martens.]	
Evaporation rate	Not available.	
Flammability (solid, gas)	Not available.	
Lower and upper explosive (flammable) limits	Not available.	
Vapour pressure	Not available.	
Vapour density	Not available.	
Relative density	0.99	
Solubility	Insoluble in the following materials: cold water and hot water.	
Solubility in water	Not available.	
Partition coefficient: n- octanol/water	Not available.	
Auto-ignition temperature	260°C (500°F)	
Decomposition temperature	Not available.	
Viscosity	Kinematic (40°C (104°F)): Not applicable.	
Flow time (ISO 2431)	Not available.	

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.

Date of issue/Date of revision	: 09/24/2020

Section 10. Stability and reactivity

Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal con should not be proc

composition : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LC50 Inhalation Dusts and mists	Rat	5.7 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
carbon black	LD50 Oral	Rat	>15400 mg/kg	-
5,5'-dithiodi- 1,3,4-thiadiazole-2(3H)- thione	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

Irritation/Corrosion

Not available.

Sensitisation

•	Route of exposure	Species	Result
5,5'-dithiodi- 1,3,4-thiadiazole-2(3H)- thione	skin	Mouse	Sensitising

Mutagenicity

Product/ingredient name	Test	Experiment	Result
5,5'-dithiodi- 1,3,4-thiadiazole-2(3H)- thione	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 487 In vitro Micronucleus Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Carcinogenicity

Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
5,5'-dithiodi- 1,3,4-thiadiazole-2(3H)- thione	-	-	-	Rat	Oral: 300 mg/kg	47 days

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Name		Route of exposure	Target organs
carbon black	Category 2	Inhalation	Not determined

Aspiration hazard

Not available.

Information on likely routes : Not available.

of exposure

Potential acute health effects

Eye contact	: Causes serious eye irritation.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: May cause an allergic skin reaction.
Ingestion	: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No specific data.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

<u>Short term exposure</u>		
Potential immediate effects	:	Not available.
Potential delayed effects	1	Not available.
<u>Long term exposure</u>		
Potential immediate effects	:	Not available.
Potential delayed effects	:	Not available.
Potential chronic health eff	ect	<u>s</u>

Product/ingredient name Result **Species** Dose **Exposure** 5,5'-dithiodi-Sub-acute NOAEL Oral Rat 1000 mg/kg 14 days 1,3,4-thiadiazole-2(3H)thione General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Carcinogenicity : No known significant effects or critical hazards. **Mutagenicity** : No known significant effects or critical hazards. **Teratogenicity** : No known significant effects or critical hazards. **Developmental effects** : No known significant effects or critical hazards. **Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity Acute toxicity estimates

Section 11. Toxicological information

U					
Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)		Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Distillates (petroleum), hydrotreated heavy naphthenic	N/A	N/A	N/A	N/A	5.7

Section 12. Ecological information

<u>Toxicity</u>			
Product/ingredient name	Result	Species	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 >100 mg/l	Crustaceans	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
carbon black	Acute EC50 37.563 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
5,5'-dithiodi-1,3,4-thiadiazole- 2(3H)-thione	Acute EC10 9.4 mg/l	Algae	72 hours
	Acute EC50 20 mg/l	Algae	72 hours
	Acute EC50 3 mg/l	Daphnia	48 hours
	Acute EC50 >454 mg/l	Fish	96 hours

Persistence and degradability

Product/ingredient name	Test	Result		Dose	Inoculum
5,5'-dithiodi-1,3,4-thiadiazole- 2(3H)-thione	OECD 301B Ready Biodegradability - CO2 Evolution Test	0 % - Not readily - 2	8 days	-	-
Product/ingredient name	Aquatic half-life		Photolysis	5	Biodegradability
Distillates (petroleum), hydrotreated heavy naphthenic 5,5'-dithiodi-1,3,4-thiadiazole- 2(3H)-thione	-		-		Inherent Not readily

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition: Not available.coefficient (Koc)

Other adverse effects : No kn

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	ADG	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to Annex II of Marpol and the IBC Code

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Inventory list	
Australia	Not determined.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
New Zealand	: All components are listed or exempted.
Philippines	Not determined.
Republic of Korea	Not determined.
Taiwan	: All components are listed or exempted.
Thailand	Not determined.
Turkey	Not determined.
United States	: All components are listed or exempted.
Viet Nam	: Not determined.

Section 16. Any other relevant information

History	
Date of issue/Date of revision	: 09/24/2020
Version	: 1
Key to abbreviations	 ADG = Australian Dangerous Goods ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations

Procedure used to derive the classification

Classification	Justification
EYE IRRITATION - Category 2A	Calculation method
SKIN SENSITISATION - Category 1	Calculation method
SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 3	Calculation method
LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3	Calculation method

✓ Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the abovenamed supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.