

## Section 1. Identification

<b>GHS product identifier</b>	Optigear BM 150
<b>Product code</b>	450751-FR01
<b>SDS no.</b>	450751
<b>Relevant identified uses of the substance or mixture and uses advised against</b>	
<b>Use of the substance/ mixture</b>	Gear lubricant For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Manufacturer</b>	
<b>Supplier</b>	Castrol India Ltd Technopolis Knowledge Park Office PO Box 19411 Mahakali Caves Rd Chakala, Andheri (E) Mumbai 400093
	Telephone: +91 (022) 66984111/66984112
<b>EMERGENCY TELEPHONE NUMBER</b>	Toll free: 000800 100 7479 (for use in India only - 24/7) Carechem Singapore: +65 3158 1198 (24/7)

## Section 2. Hazards identification

<b>GHS Classification</b>	SKIN CORROSION/IRRITATION - Category 3 SKIN SENSITISATION - Category 1 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
<b>GHS label elements</b>	
<b>Hazard pictograms</b>	
<b>Signal word</b>	Warning
<b>Hazard statements</b>	H316 - Causes mild skin irritation. H317 - May cause an allergic skin reaction. H412 - Harmful to aquatic life with long lasting effects.
<b>Precautionary statements</b>	
<b>Prevention</b>	P280 - Wear protective gloves. P273 - Avoid release to the environment. P261 - Avoid breathing vapour. P272 - Contaminated work clothing should not be allowed out of the workplace.
<b>Response</b>	P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P333 + P313 - If skin irritation or rash occurs: Get medical attention.
<b>Storage</b>	Not applicable.
<b>Disposal</b>	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Other hazards which do not result in classification</b>	Defatting to the skin.

## Section 3. Composition/information on ingredients

**Substance/mixture** Mixture

Highly refined mineral oil and additives.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	≥25 - ≤50	64742-54-7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≥25 - ≤50	64742-65-0
Residual oils (petroleum), solvent-dewaxed	≤10	64742-62-7
Residual oils (petroleum), hydrotreated	≤10	64742-57-0
Zinc dialkyl dithiophosphate	≤2.4	68457-79-4
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	≤1.9	Proprietary
maleic anhydride	≤0.1	108-31-6

**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

<b>Eye contact</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. 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. Get medical attention if symptoms occur.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention.
<b>Ingestion</b>	Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if adverse health effects persist or are severe.
<b>Protection of first-aiders</b>	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.

### Most important symptoms/effects, acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Specific treatments</b>	No specific treatment.
<b>Notes to physician</b>	Treatment should in general be symptomatic and directed to relieving any effects. 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.

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable</b>	Use foam or all-purpose dry chemical to extinguish.
<b>Not suitable</b>	Do not use water jet.
<b>Specific hazards arising from the chemical</b>	Swarf fires - Neat metal working oils may fume, thermally decompose or ignite if they come into contact with red hot swarf. To minimise the generation of red hot swarf ensure that a sufficient flow of oil is correctly directed to the cutting edge of the tool to flood it throughout cutting operations. As an additional precaution swarf should be regularly cleared from the immediate area to prevent the risk of fire. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects.

## Section 5. Firefighting measures

### Hazardous thermal decomposition products

Combustion products may include the following:  
metal oxide/oxides  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)  
nitrogen oxides (NO, NO<sub>2</sub> etc.)

### Special precautions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

### Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Contact 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. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

#### For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. 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 environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### Methods and material for containment and cleaning up

#### Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. 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. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

## 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. 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. Avoid contact of spilt material and runoff with soil and surface waterways. Concentrations of mist, fumes and vapours in enclosed spaces may result in the formation of explosive atmospheres. Excessive splashing, agitation or heating must be avoided. During metal working, solid particles from workpieces or tools will contaminate the fluid and may cause abrasions of the skin. Where such abrasions result in a penetration of the skin, first aid treatment should be applied as soon as reasonably possible. The presence of certain metals in the workpiece or tool, such as chromium, cobalt and nickel, can contaminate the metalworking fluid, as can bacteria, and as a result may induce allergic and other skin reactions, especially if personal hygiene is inadequate.

#### Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. 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 from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. 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.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	<b>ACGIH TLV (United States, 3/2020).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<b>ACGIH TLV (United States, 3/2020).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction
Residual oils (petroleum), solvent-dewaxed	<b>ACGIH TLV (United States, 3/2020).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction
Residual oils (petroleum), hydrotreated	<b>ACGIH TLV (United States, 3/2020).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction

Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.

Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

### Environmental exposure controls

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 measures

#### 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 protection

Safety glasses with side shields.

#### Skin protection

## Section 8. Exposure controls/personal protection

### Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Nitrile gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

### Skin protection

Use of protective clothing is good industrial practice. 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. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

### 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

In case of insufficient ventilation, wear suitable respiratory equipment. For protection against metal working fluids, respiratory protection that is classified as "resistant to oil" (class R) or oil proof (class P) should be selected where appropriate. Depending on the level of airborne contaminants, an air-purifying, half-mask respirator (with HEPA filter) including disposable (P- or R-series) (for oil mists less than 50mg/m<sup>3</sup>), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m<sup>3</sup>). Where organic vapours are a potential hazard during metalworking operations, a combination particulate and organic vapour filter may be necessary. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

## Section 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Colour	Brown.
Odour	Mild
Odour threshold	Not available.
pH	Not applicable.
Melting point	Not available.
Boiling point	Not available.
Drop Point	Not available.
Pour point	-9 °C
Flash point	Open cup: >200°C (>392°F) [Cleveland.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Lower and upper explosive (flammable) limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Density	<1000 kg/m <sup>3</sup> (<1 g/cm <sup>3</sup> ) at 15°C
Solubility	insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.

## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Kinematic: 150 mm <sup>2</sup> /s (150 cSt) at 40°C Kinematic: 15 mm <sup>2</sup> /s (15 cSt) at 100°C

## Section 10. Stability and reactivity

<b>Reactivity</b>	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	Avoid excessive heat.
<b>Incompatible materials</b>	Reactive or incompatible with the following materials: oxidising materials.
<b>Hazardous decomposition products</b>	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	Test	Species	Result	Exposure	Remarks
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	LD50 Dermal	Rat	>2000 mg/kg	-	-
	LD50 Oral	Rat	>2000 mg/kg	-	-

#### Irritation/Corrosion

Product/ingredient name	Species	Result	Score	Exposure	Observation	Remarks
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	Rabbit	Skin - Moderate irritant	-	-	-	-
	Rabbit	Eyes - Redness of the conjunctivae	≥2	-	-	-

#### Sensitiser

Product/ingredient name	Route of exposure	Species	Result	Remarks
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	skin	Guinea pig	Sensitising	-

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Maleic anhydride	Category 1	inhalation	respiratory system

#### Aspiration hazard

Not available.

**Information on likely routes of exposure** Routes of entry anticipated: Dermal, Inhalation.

#### Potential acute health effects

<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

## Section 11. Toxicological information

<b>Skin contact</b>	Causes mild skin irritation. Defatting to the skin. May cause an allergic skin reaction.
<b>Ingestion</b>	Irritating to mouth, throat and stomach.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	
<b>Eye contact</b>	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	Adverse symptoms may include the following: irritation redness dryness cracking
<b>Ingestion</b>	No specific data.
<b>Potential chronic health effects</b>	
<b>General</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

## Section 12. Ecological information

**Environmental effects** This material is harmful to aquatic life with long lasting effects.

### Toxicity

<u>Product/ingredient name</u>	<u>Species</u>	<u>Test/Result</u>	<u>Exposure</u>	<u>Effects</u>	<u>Remarks</u>
Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	Daphnia	Chronic EC50 6.8 mg/l	48 hours	-	-

### Persistence and degradability

Expected to be biodegradable.

### Bioaccumulative potential

Not available.

<u>Product/ingredient name</u>	<u>LogP<sub>ow</sub></u>	<u>BCF</u>	<u>Potential</u>
Inc dialkyl dithiophosphate	0.69	-	low
maleic anhydride	-2.78	-	low

### Mobility

Liquid. insoluble in water.

### Other adverse effects

No known significant effects or critical hazards.

## Section 13. Disposal considerations

### Disposal methods

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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

	IMDG	IATA
UN number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

Special precautions for user Not available.

Transport in bulk according to IMO instruments Not available.

## Section 15. Regulatory information

### Regulation according to other foreign laws

REACH Status	The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.
Australia inventory (AICS)	At least one component is not listed.
Canada inventory status	At least one component is not listed in DSL but all such components are listed in NDSL.
China inventory (IECSC)	All components are listed or exempted.
Japan inventory (ENCS)	At least one component is not listed.
Korea inventory (KECI)	At least one component is not listed.
Philippines inventory (PICCS)	At least one component is not listed.
Taiwan Chemical Substances Inventory (TCSI)	All components are listed or exempted.
United States inventory (TSCA 8b)	All components are active or exempted.

## Section 16. Other information

### History

Date of issue/Date of revision 06/05/2021.

Date of previous issue 08/10/2020.

Prepared by Product Stewardship

### Key to abbreviations

ACGIH = American Conference of Industrial Hygienists  
CAS Number = Chemical Abstracts Service Registry Number  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IMDG = International Maritime Dangerous Goods  
OEL = Occupational Exposure Limit  
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]  
SDS = Safety Data Sheet  
STEL = Short term exposure limit  
TWA = Time weighted average  
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.  
Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5,

## Section 16. Other information

64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1,  
64742-62-7, 64742-63-8, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0,  
72623-87-1

✔ Indicates information that has changed from previously issued version.

### [Notice to reader](#)

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

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