SAFETY DATA SHEET

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

1.1 Product identifier

Product name **Optigear RMO**

UFI: X6K2-W0ET-C00A-N69H

Product code 450762-FR01

SDS # 450762

Product type Liquid.

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

Identified uses
General use of lubricants and greases in vehicles or machinery-Industrial General use of lubricants and greases in vehicles or machinery-Professional

Use of the substance/ mixture Gear lubricant
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

1.3 Details of the supplier of the safety data sheet

Supplier

Castrol Holdings Europe B.V.,
d'Arcyweg 76, 3198NA
Europoort
Rotterdam

Castrol CEE sp z.o.o,
Ul. Grzybowska 62,
00 844 Warszawa

+48 (0)800 121 4817

E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER 112
Carechem: +44 (0) 1235 239 670 (24/7)

Czech Republic Poison Center Toxikologické informační středisko
Na Bojišti 1
120 00 Prague 2
Tel: + 420 224 919 293 (24 hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Sens. 1, H317
Aquatic Chronic 3, H412

See Section 16 for the full text of the H statements declared above.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

2.2 Label elements

UFI: X6K2-W0ET-C00A-N69H

Hazard pictograms

Signal word Warning

SECTION 2: Hazards identification

Hazard statements

H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P280 - Wear protective gloves.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.

Storage

Not applicable.

Disposal

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl

Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate

Reaction products of triphenyl phosphite and isodecanol (1:1)

(4-nonylphenoxy)acetic acid

Supplemental label elements

Not applicable.

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

Not applicable.

Tactile warning of danger

Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006.

This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

Other hazards which do not result in classification

Defatting to the skin.
Experimental data on one or more of the components has been used to determine all or part of the hazard classification of this product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition

Mixture

Synthetic lubricant and additives.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type

SECTION 3: Composition/information on ingredients

Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized	REACH #: 01-2119977115-34 EC: 701-432-9 CAS: -	≤3	Skin Sens. 1B, H317	-	[1]
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	REACH #: 01-2119493620-38 EC: 931-384-6 CAS: -	≤3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/kg Eye Irrit. 2, H319: C ≥ 50% Skin Sens. 1, H317: C ≥ 9.39%	[1]
Molybdenum trioxide, reaction products with bis[O,O-bis (2-ethylhexyl)] hydrogen dithiophosphate	REACH #: 01-2120772600-59 EC: 947-946-9 CAS: -	≤3	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 4, H413	-	[1] [2]
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	REACH #: 01-2119473797-19 EC: 627-034-4 CAS: 1213789-63-9	<1	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 10	[1]
Reaction products of triphenyl phosphite and isodecanol (1:1)	REACH #: 01-2119968254-31 EC: 701-341-4 CAS: -	≤0.3	Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 2, H411	-	[1]
(4-nonylphenoxy)acetic acid	REACH #: 01-2119982392-31 EC: 221-486-2 CAS: 3115-49-9	≤0.3	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 1 M [Chronic] = 1	[1]
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	REACH #: 01-2119487014-41 CAS: 1219010-04-4	≤0.3	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 1, H372 (gastrointestinal tract) (oral) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 1	[1]

See Section 16 for the full text of the H statements declared above.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact
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.

Skin contact
Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention.

Inhalation
If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion
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 symptoms occur.

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.

4.2 Most important symptoms and effects, both acute and delayed

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

Potential acute health effects

SECTION 4: First aid measures

Inhalation Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

Ingestion No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Eye contact See: Section 11. Toxicological Information - Potential acute health effects: Eye contact

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

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treatment should in general be symptomatic and directed to relieving any effects.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use foam or all-purpose dry chemical to extinguish.

Unsuitable extinguishing media Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
metal oxide/oxides
phosphorus oxides
sulphur oxides (SO, SO_2, etc.)

5.3 Advice for firefighters

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. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

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".

6.2 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.

6.3 Methods and material for containment and cleaning up

SECTION 6: Accidental release measures

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.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 5 for firefighting measures.
See Section 8 for information on appropriate personal protective equipment.
See Section 12 for environmental precautions.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. 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 contact of spilt material and runoff with soil and surface waterways. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Empty containers retain product residue and can be hazardous.

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.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep away from heat and direct sunlight. 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. Store and use only in equipment/ containers designed for use with this product. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

7.3 Specific end use(s)

Recommendations

See section 1.2 and Exposure scenarios in annex, if applicable.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic) [molybdenu sloučeniny]** TWA 8 hours: 5 mg/m³ (as Mo). Issued/Revised: 4/2012. STEL 15 minutes: 25 mg/m³ (as Mo). Issued/Revised: 4/2012.

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

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Biological exposure indices

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure indices
No exposure indices known.	

DNELs/DMELs

Product/ingredient name	Result
(4-nonylphenoxy)acetic acid	**DNEL - Workers - Long term - Inhalation** 1.76 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.43 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 0.25 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 0.25 mg/kg bw/day Effects: Systemic

PNECs

Product/ingredient name	Result
(4-nonylphenoxy)acetic acid	**Fresh water** 0.001 mg/l **Marine water** 0 mg/l **Sewage Treatment Plant** 1 mg/l **Fresh water sediment** 0.02 mg/kg **Marine water sediment** 0.002 mg/kg **Soil** 0.004 mg/kg

8.2 Exposure controls

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.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

SECTION 8: Exposure controls/personal 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/m3), or any powered, air-purifying respirator equipped with hood or helmet and HEPA filter (for oil mists less than 125 mg/m3). 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.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

General Information:

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Recommended: Nitrile gloves.
Breakthrough time:

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.
Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.
If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.
It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

Glove Thickness:

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers’ technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

SECTION 8: Exposure controls/personal protection

• Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Skin and body

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.

Refer to standards:

Respiratory protection: EN 529
Gloves: EN 420, EN 374
Eye protection: EN 166
Filtering half-mask: EN 149
Filtering half-mask with valve: EN 405
Half-mask: EN 140 plus filter
Full-face mask: EN 136 plus filter
Particulate filters: EN 143
Gas/combined filters: EN 14387

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.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Physical state Liquid.

Colour Green. [Light]

Odour Not available.

Odour threshold Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flammability Not available.

Lower and upper explosion limit Not available.

Flash point Open cup: 204°C (399.2°F) [Cleveland]

Auto-ignition temperature

Ingredient name	°C	°F	Method
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	343 to 369	649.4 to 696.2	ASTM D 2159
Benzene, mono-C10-13-alkyl derivs., distn. residues	258	496.4	ASTM E 659-78
Polybutene (Isobutylene/butene copolymer)	215	419	EU A.15

Decomposition temperature Not available.

pH Not applicable.

Kinematic viscosity Kinematic: 155 mm^2/s (155 cSt) at 40°C

Solubility

Media	Result
water	Not soluble

Partition coefficient n-octanol/water (log value) Not applicable.

Vapour pressure

SECTION 9: Physical and chemical properties

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	<0.0041	<0.00055	ASTM E 1194-87			
Benzene, mono-C10-13-alkyl derivs., distn. residues	<0.038	<0.0051	NF T 20-048	<0.038	<0.0051	NF T 20-048
Polybutene (Isobutylene/butene copolymer)	5.10043	0.68		13.05111	1.7	

Density and/or Relative density <1000 kg/m³ (<1 g/cm³) at 15°C

Relative vapour density Not available.

Particle characteristics

Median particle size Not applicable.

9.2 Other information

Evaporation rate Not available.

Explosive properties Not available.

Oxidising properties Not available.

Pour point <-39 °C

SECTION 10: Stability and reactivity

10.1 Reactivity No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

10.2 Chemical stability The product is stable.

10.3 Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

10.4 Conditions to avoid Avoid all possible sources of ignition (spark or flame).

10.5 Incompatible materials Reactive or incompatible with the following materials: oxidising materials.

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

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Rat - Oral - LD50** 2000 mg/kg OECD 401
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Rat - Oral - LD50** 6015 mg/kg Equivalent to OECD 401 **Rabbit - Dermal - LD50** 8833 mg/kg Equivalent to OECD 402
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**Rat - Oral - LD50** 1689 mg/kg OECD 401
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Rat - Oral - LC50** 3840 mg/kg

SECTION 11: Toxicological information

	OECD 401 **Rabbit - Dermal - LC50** >5000 mg/kg OECD 402 **Rat - Inhalation - LC50 Vapour** >8.4 mg/l [4 hours] OECD 403
(4-nonylphenoxy)acetic acid	**Rat - Oral - LD50** 1674 mg/kg OECD 401
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	**Rat - Oral - LD50** 500 mg/kg OECD 401

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Optigear RMO	41180.6	N/A	N/A	N/A	N/A
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	500	N/A	N/A	N/A	N/A
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	500	N/A	N/A	N/A	N/A
Reaction products of triphenyl phosphite and isodecanol (1:1)	2500	N/A	N/A	N/A	N/A
(4-nonylphenoxy)acetic acid	500	N/A	N/A	N/A	N/A
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	500	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Rabbit - Skin - Non-irritant to skin.** OECD 404
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Unspecified - Skin - Irritant** OECD 439
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**Rabbit - Skin - Visible necrosis** OECD 404
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Rabbit - Skin - Slightly irritating to the skin.** OECD 404
(4-nonylphenoxy)acetic acid	**Rabbit - Skin - Corrosive** OECD 404
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	**Rabbit - Skin - Corrosive** OECD 404

Serious eye damage/eye irritation

Product/ingredient name	Result

SECTION 11: Toxicological information

Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Rabbit - Eyes - Irritant** FHSA 16CFR1500
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Unspecified - Eyes - Non-irritating to the eyes.** OECD 437
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**Rabbit - Eyes - Severe irritant** OECD 405
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Rabbit - Eyes - Slightly irritating to the eyes.** ASTM
(4-nonylphenoxy)acetic acid	**Rabbit - Eyes - Severe irritant** OECD 405
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	**Unspecified - Eyes - Corrosive**

Respiratory corrosion/irritation

Not available.

Respiratory or skin sensitization

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Mouse - skin** OECD 429 Result: Sensitising
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Mouse - skin** OECD 429 Result: Sensitising
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Guinea pig - skin** OECD 406 Result: Sensitising
(4-nonylphenoxy)acetic acid	**Guinea pig - skin** OECD 406 Result: Sensitising

Germ cell mutagenicity

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**In vitro - Bacteria** OECD 471 Result: Negative **In vitro - Mammal - species unspecified** OECD 476 Result: Negative **In vitro - Unspecified - Somatic** OECD 474 Result: Negative
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**In vitro - Bacteria** OECD [Bacterial Reverse Mutation Test] Result: Negative **In vitro - Mammal - species unspecified** OECD [In vitro Micronucleus Test] Result: Negative

SECTION 11: Toxicological information

	In vitro - Mammal - species unspecified OECD 490 Result: Negative
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**In vitro - Bacteria** OECD 471 Result: Negative **In vitro - Unspecified** OECD 473 Result: Negative **In vitro - Mammal - species unspecified** OECD 476 Result: Negative
Reaction products of triphenyl phosphite and isodecanol (1:1)	**In vitro - Bacteria** OECD 471 Result: Negative **In vitro - Mammalian-Animal** OECD 487 Result: Negative **In vivo - Mammalian-Animal** OECD 474 Result: Negative
(4-nonylphenoxy)acetic acid	**In vitro - Bacteria** OECD 471 Result: Negative **In vitro - Mammalian-Animal** OECD 476 Result: Negative **In vivo - Mammalian-Animal** OECD 474 Result: Negative
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	**In vitro - Bacteria** OECD 471 Result: Negative **In vitro - Mammalian-Animal** OECD 473 Result: Negative **In vitro - Mammalian-Animal** OECD 476 Result: Negative

Carcinogenicity

Not available.

Reproductive toxicity

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Rat - Oral** OECD 421 Maternal toxicity: Positive Fertility effects: Negative Developmental: Negative
Molybdenum trioxide, reaction products with bis [O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Rat - Oral** OECD 422 Maternal toxicity: Negative Fertility effects: Negative

SECTION 11: Toxicological information

	Developmental: Negative
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**Rat - Oral** OECD 421 Maternal toxicity: Positive Fertility effects: Negative Developmental: Negative
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Rat - Oral** OECD 422 Maternal toxicity: Negative Fertility effects: Negative Developmental: Negative
(4-nonylphenoxy)acetic acid	**Rat - Oral** OECD 422 Maternal toxicity: Negative Fertility effects: Negative Developmental: Negative
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	**Rat - Oral** OECD 416 Maternal toxicity: Positive Fertility effects: Negative Developmental: Negative

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	STOT SE 3, H335 (Respiratory tract irritation)

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	STOT RE 2, H373
Reaction products of triphenyl phosphite and isodecanol (1:1)	STOT RE 2, H373
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	STOT RE 1, H372 (gastrointestinal tract) (oral)

Aspiration hazard

Product/ingredient name	Result
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	ASPIRATION HAZARD - Category 1

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

Potential acute health effects

Inhalation Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.

Ingestion No known significant effects or critical hazards.

Skin contact Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Eye contact Based on data available for this or related materials. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation No specific data.

Ingestion No specific data.

Skin contact Adverse symptoms may include the following:
irritation
redness
dryness
cracking

SECTION 11: Toxicological information

Eye contact No specific data.

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

Inhalation Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

Skin contact Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Eye contact Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential chronic health effects

Not available.

Conclusion/Summary [Product] Not available.

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity 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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Conclusion/Summary [Product] This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	**Acute - ErC50** OECD 201 Algae 6.4 mg/l [96 hours] **Chronic - NOEC** OECD 201 Algae 1.7 mg/l [96 hours] **Acute - EC50** OECD 202 Daphnia 91.4 mg/l [48 hours] **Chronic - EC50** OECD 211 Daphnia 0.66 mg/l [21 days] **Chronic - NOEC** OECD 211 Daphnia 0.12 mg/l [21 days] **Acute - LC50** OECD 203 Fish 24 mg/l [96 hours]
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	**Acute - EL50** OECD 201 Algae >100 mg/l [72 hours] **Acute - EL50** OECD 202 Daphnia >100 mg/l [48 hours]

SECTION 12: Ecological information

	Acute - LL50 OECD 203 Fish >100 mg/l [96 hours] **Chronic - NOEL** OECD 201 Algae 100 mg/l [96 hours]
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	**Acute - ErC50** OECD 201 Algae 0.04 mg/l [96 hours] **Chronic - NOEC** OECD 201 Algae 0.01 mg/l [96 hours] **Chronic - NOEC** OECD 211 Daphnia 0.013 mg/l [21 days] **Acute - LC50** EPA OPPTS 850.1085 Fish 0.06 mg/l [96 hours]
Reaction products of triphenyl phosphite and isodecanol (1:1)	**Acute - EC50** OECD 201 Algae 1.6 mg/l [72 hours] **Acute - EC50** OECD 202 Daphnia 1 to 5 mg/l [48 hours] **Acute - LC50** OECD 203 Fish >16 mg/l [96 hours] **Acute - EC50** OECD 209 Micro-organism >100 mg/l [3 hours]
(4-nonylphenoxy)acetic acid	**Acute - ErC50** OECD 201 Algae 27.21 mg/l [72 hours] **Acute - EC50** OECD 202 Daphnia 0.88 mg/l [48 hours] **Acute - LC50** OECD 203 Fish 9 mg/l [96 hours] **Chronic - ErC10** OECD 201 Algae 18.83 mg/l [72 hours]
N-C16-18 (even numbered) and C18	**Acute - ErC50**

SECTION 12: Ecological information

(unsaturated) alkyl propane-1,3-diamine	OECD 201 Algae 0.01 to 0.1 mg/l [72 hours] **Acute - EC50** OECD 202 Daphnia 0.01 to 0.1 mg/l [48 hours] **Acute - LC50** OECD 203 Fish 0.1 to 1 mg/l [96 hours] **Chronic - NOEC** OECD 201 Algae 0.01 to 0.1 mg/l [72 hours] **Chronic - NOEC** OECD 211 Daphnia 0.001 to 0.01 mg/l [21 days]

Environmental hazards Harmful to aquatic life with long lasting effects.
Based on data available for this or related materials.

12.2 Persistence and degradability

Expected to be biodegradable.

Product/ingredient name	Result
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	OECD 301B 7.4% [28 days] - Not readily
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	OECD 301B 11% [28 days] - Not readily
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	OECD 301B 66% [28 days] - Readily
Reaction products of triphenyl phosphite and isodecanol (1:1)	17% [28 days]
(4-nonylphenoxy)acetic acid	OECD 301B 42 to 46% [28 days] - Not readily
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	OECD 301D 66% [28 days] - Readily

12.3 Bioaccumulative potential

Not available.

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	18.94	-	High
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	4.33	-	High
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	1.46	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

SECTION 12: Ecological information

Product/ingredient name	logKoc	Koc
Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized	4.01	10197.9
Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate	3.46	2912.11
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	3.43	2699.8
(4-nonylphenoxy)acetic acid	3.27	1853.28

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized	No	No	No	No	No	No	No
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	No	No	No	No	No	No	No
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	No	No	No	No	No	No	No
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	No	No	No	No	No	No	No
Reaction products of triphenyl phosphite and isodecanol (1:1)	No	No	No	No	No	No	No
(4-nonylphenoxy)acetic acid	No	No	No	No	No	No	No
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	No	No	No	No	No	No	No

Mobility Liquid. insoluble in water.

Conclusion/Summary The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized	No	N/A	N/A	No	N/A	N/A	N/A
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	No	N/A	N/A	No	N/A	N/A	N/A
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	No	N/A	N/A	No	N/A	N/A	N/A
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	N/A	N/A	N/A	Yes	N/A	N/A	N/A
Reaction products of triphenyl phosphite and isodecanol (1:1)	N/A	N/A	N/A	Yes	N/A	N/A	N/A
(4-nonylphenoxy)acetic acid	No	N/A	N/A	No	N/A	N/A	N/A

SECTION 12: Ecological information

N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	N/A	N/A	N/A	Yes	N/A	N/A	N/A

Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Fatty acids, C16-18 (even numbered, C18 unsaturated), 2-ethylhexyl esters, epoxidized	No	No	No	No	No	No	No
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	No	No	No	No	No	No	No
Molybdenum trioxide, reaction products with bis[O, O-bis(2-ethylhexyl)] hydrogen dithiophosphate	No	No	No	No	No	No	No
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	No	No	No	No	No	No	No
Reaction products of triphenyl phosphite and isodecanol (1:1)	No	No	No	No	No	No	No
(4-nonylphenoxy)acetic acid	No	No	No	No	No	No	No
N-C16-18 (even numbered) and C18 (unsaturated) alkyl propane-1,3-diamine	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Conclusion/Summary [Product] This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Hazardous waste Yes.

European waste catalogue (EWC)

Waste code	Waste designation
13 02 06*	synthetic engine, gear and lubricating oils

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

Packaging

Methods of disposal Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Waste code	European waste catalogue (EWC)
15 01 10*	packaging containing residues of or contaminated by hazardous substances

SECTION 13: Disposal considerations

Special precautions 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. Empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never weld, solder or braze empty containers. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

References Commission 2014/955/EU
Directive 2008/98/EC

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user Not available.

14.7 Maritime transport in bulk according to IMO instruments Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Optigear RMO	95-100	3
4-nonylphenol, branched	<0.001	46
methanol	<0.0001	69

Labelling Not applicable.

Other regulations

REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

United States inventory (TSCA 8b) All components are active or exempted.

Australia inventory (AIIC) All components are listed or exempted.

Canada inventory All components are listed or exempted.

China inventory (IECSC) All components are listed or exempted.

Japan inventory (CSCL) All components are listed or exempted.

SECTION 15: Regulatory information

Korea inventory (KECI) All components are listed or exempted.

Philippines inventory (PICCS) At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI) All components are listed or exempted.

Explosive precursors Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

EU - Water framework directive - Priority substances

None of the components are listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

15.2 Chemical safety assessment A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate 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)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SADT = Self-Accelerating Decomposition Temperature
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVCB = Complex hydrocarbon substance
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23, 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4/ RRN

SECTION 16: Other information

01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN 01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8, 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 / RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN 01-2119474889-13

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Sens. 1, H317 Aquatic Chronic 3, H412	Calculation method Expert judgment

Full text of abbreviated H statements

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
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.
H413	May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision 27/11/2025.

Date of previous issue 10/12/2024.

Prepared by Product Stewardship

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.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to

SECTION 16: Other information

ensure that this document is the most current available. Alteration of this document is strictly prohibited.

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	450762-FR01
Product name	Optigear RMO

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Industrial
List of use descriptors	**Identified use name:** General use of lubricants and greases in vehicles or machinery-Industrial **Process Category:** PROC01, PROC02, PROC08b, PROC09 **Sector of end use:** SU03 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC04, ERC07 **Specific Environmental Release Category:** ATIEL-ATC SPERC 4.Biv1
Processes and activities covered by the exposure scenario	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other operational conditions affecting worker exposure:	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

General exposures (closed systems):
No other specific measures identified.

Initial factory fill of equipment Use in contained systems:
No other specific measures identified.
Initial factory fill of equipment Open systems:
Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out operation for more than 4 hours.

Operation of equipment containing engine oils and similar Use in contained systems:
No other specific measures identified.

Equipment cleaning and maintenance:
Drain down system prior to equipment break-in or maintenance. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear chemically resistant gloves (tested to EN374) in combination with specific activity training. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Equipment cleaning and maintenance Operation is carried out at elevated temperature (> 20°C above ambient temperature):
Drain down and flush system prior to equipment break-in or maintenance. Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear chemically resistant gloves (tested to EN374) in

combination with intensive management supervision controls. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:	
EU tonnage of risk determining substance per year:	2.63E+3 Tonnes/year
Frequency and duration of use:	
Emission days	300
Environment factors not influenced by risk management:	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other operational conditions of use affecting environmental exposure:	Negligible wastewater emissions as process operates without water contact.
Release fraction to air (after typical onsite RMMs)	5.00E-05
Release fraction to soil from process (after typical onsite RMMs)	0
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment	69.1
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	7594049
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Used ECETOC TRA model (May 2010 release).

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES
Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	450762-FR01
Product name	Optigear RMO

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Professional
List of use descriptors	**Identified use name:** General use of lubricants and greases in vehicles or machinery-Professional **Process Category:** PROC01, PROC02, PROC08a, PROC08b, PROC20 **Sector of end use:** SU22 **Subsequent service life relevant for that use:** No. **Environmental Release Category:** ERC09a, ERC09b **Specific Environmental Release Category:** ESVOC SpERC 9.6b.v1
Processes and activities covered by the exposure scenario	Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other operational conditions affecting worker exposure:	Assumes use at not more than 20°C above ambient temperature, unless stated differently. Assumes a good basic standard of occupational hygiene is implemented

Contributing scenarios: Operational conditions and risk management measures

General measures applicable to all activities:
Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop. Use suitable eye protection. Avoid direct eye contact with product also via contamination on hands.

Operation of equipment containing engine oils and similar Use in contained systems:
No other specific measures identified.

Material transfers Non-dedicated facility:
Avoid carrying out activities involving exposure for more than 4 hours. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Equipment cleaning and maintenance Dedicated facility:
Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle.

Storage:
Store substance within a closed system.

Section 2.2: Control of environmental exposure

Amounts used:	
EU tonnage of risk determining substance per year:	5.39 Tonnes/year
Frequency and duration of use:	
Emission days	365
Environment factors not influenced by risk management:	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other operational conditions of use affecting environmental exposure:	Negligible wastewater emissions as process operates without water contact.
Release fraction to air (after typical onsite RMMs)	1.00E-04
Release fraction to soil from process (after typical onsite RMMs)	1E-03
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Conditions and measures related to municipal sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment	69.1
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	19111
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

Exposure estimation and reference to its source - Environment	
Exposure assessment (environment):	Used ECETOC TRA model (May 2010 release).

Exposure estimation and reference to its source - Workers	
Exposure assessment (human):	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 4: Guidance to check compliance with the exposure scenario

Environment	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Further details on scaling and control technologies are provided in SPERC factsheet. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. For further information see www.ATIEL.org/REACH_GES

Health	Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.