

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

1.1 Product identifier

Product name	Optigear 1100/460
Product code	468862-DE03
SDS #	468862
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.
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1.3 Details of the supplier of the safety data sheet

Supplier	Lubricants UK Limited, Chertsey Road, Sunbury On Thames, Middlesex, TW16 7BP
E-mail address	+44 (0)345 600 8125 MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER	Carechem: +44 (0) 1235 239 670 (24/7)
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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]	Aquatic Chronic 2, H411

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

Hazard pictograms



Signal word	No signal word.
Hazard statements	H411 - Toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention	P273 - Avoid release to the environment.
Response	P391 - Collect spillage.
Storage	Not applicable.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	Not applicable.

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SECTION 2: Hazards identification

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

Results of PBT and vPvB assessment Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

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.

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

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	REACH #: 01-2119493635-27 EC: 224-235-5 CAS: 4259-15-8	≤3	Eye Dam. 1, H318 Aquatic Chronic 2, H411	Eye Dam. 1, H318: C ≥ 50%	[1]
Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%]	REACH #: 01-2119535109-41 EC: 273-066-3 CAS: 68937-41-7	<2.5	Repr. 2, H361f STOT RE 2, H373 Aquatic Chronic 1, H410	M [Chronic] = 10	[1]
Reaction mass of p-t-butylphenyldiphenyl phosphate and bis(p-t-butylphenyl)phenyl phosphate and triphenyl phosphate	REACH #: 01-2119519251-50 EC: 700-990-0 CAS: -	≤3	Aquatic Chronic 3, H412	-	[1]

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

Type

[1] Substance classified with a health or environmental hazard
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. Get medical attention if irritation develops.

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

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SECTION 4: First aid measures

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.

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

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.
Eye contact	No known significant effects or critical hazards. Not classified as an eye irritant. Based on data available for this or related materials.

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.
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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	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. 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 toxic 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.

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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. Collect spillage.

6.3 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.

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. Do not ingest. Avoid contact with eyes, skin and clothing. 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. 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.

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.

7.3 Specific end use(s)

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

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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
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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.

Derived No Effect Level

No DNELs/DMELs available.

Predicted No Effect Concentration

No PNECs available

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. Ensure that eyewash stations and safety showers are close to the workstation location.

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/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.

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SECTION 8: Exposure controls/personal protection

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.
- 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.

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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 Brown.
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: >220°C (>428°F) [Cleveland]
Auto-ignition temperature Not available.
Decomposition temperature Not available.
pH Not applicable.
Kinematic viscosity Kinematic: 414 to 506 mm²/s (414 to 506 cSt) at 40°C
 Kinematic: 30 mm²/s (30 cSt) at 100°C

Solubility

Media	Result
water	Not soluble

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

Vapour pressure

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Residual oils (petroleum), solvent-dewaxed	<0.08	<0.011	ASTM D 5191			
Residual oils (petroleum), hydrotreated	<0.08	<0.011	ASTM D 5191			
Zinc bis[O,O-bis(2-ethylhexyl)] bis (dithiophosphate)	0.0000032	0.00000043	EU A.4	0.000034	0.0000045	EU A.4
Lubricating oils	<0.08	<0.011	ASTM D 5191			
Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%]	3.38	0.45	EU A.4			

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 <-18 °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 excessive heat.
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 estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	2500	N/A	N/A	N/A	N/A

Information on likely routes of exposure Routes of entry anticipated: 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.
Eye contact	No known significant effects or critical hazards. Not classified as an eye irritant. Based on data available for this or related materials.

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 dryness cracking
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

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

Not available.

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SECTION 11: Toxicological information

Remarks - Endocrine disruptor - Health Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Expected to be biodegradable.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available.

Mobility Non-volatile. Liquid. insoluble in water.

12.5 Results of PBT and vPvB assessment

Product does not meet the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

12.6 Endocrine disrupting properties Not available.

Remarks - Endocrine disruptor - Environment Not available.

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 05*	mineral-based non-chlorinated 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

Special precautions


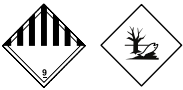


This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Empty containers represent a fire hazard as they may contain flammable product 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

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SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%])	Environmentally hazardous substance, liquid, n.o.s. (Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%])	Environmentally hazardous substance, liquid, n.o.s.. Marine pollutant (Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%])	Environmentally hazardous substance, liquid, n.o.s. (Phenol, isopropylated, phosphate (3:1) [Triphenyl phosphate >5%])
14.3 Transport hazard class(es)	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.
Additional information	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Hazard identification number 90 Tunnel code -	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

14.6 Special precautions for user Not available.

UK Emergency Action Code: •3Z

ADR/RID Classification code: M6

ADN Classification code: M6

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.

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.

Other regulations

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SECTION 15: Regulatory information

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 (AIIIC) 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.

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

Philippines inventory (PICCS) All components are listed or exempted.

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

Ozone depleting substances (1005/2009/EU)

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 controlled under the Seveso Directive.

Danger criteria

Category
E2

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

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SECTION 16: Other information

[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
 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
Aquatic Chronic 2, H411		Calculation method
Full text of abbreviated H statements	H225	Highly flammable liquid and vapour.
	H302	Harmful if swallowed.
	H312	Harmful in contact with skin.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H318	Causes serious eye damage.
	H319	Causes serious eye irritation.
	H331	Toxic if inhaled.
	H335	May cause respiratory irritation.
	H361f	Suspected of damaging fertility.
	H373	May cause damage to organs through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.	
H412	Harmful to aquatic life with long lasting effects.	
Full text of classifications [CLP/GHS]	Acute Tox. 3	ACUTE TOXICITY - Category 3
	Acute Tox. 4	ACUTE TOXICITY - Category 4
	Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
	Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
	Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
	Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
	Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
	Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
	Repr. 2	REPRODUCTIVE TOXICITY - Category 2
	Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
	Skin Sens. 1	SKIN SENSITISATION - 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 11/09/2023.
Date of previous issue 06/09/2023.
Prepared by Product Stewardship

 Indicates information that has changed from previously issued version.

Notice to reader

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SECTION 16: Other information

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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Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	468862-DE03
Product name	Optigear 1100/460

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Industrial
List of use descriptors	<p>Identified use name: General use of lubricants and greases in vehicles or machinery-Industrial</p> <p>Process Category: PROC01, PROC08b, PROC09, PROC02</p> <p>Sector of end use: SU03</p> <p>Subsequent service life relevant for that use: No.</p> <p>Environmental Release Category: ERC04, ERC07</p> <p>Specific Environmental Release Category: ATIEL-ATC SPERC 4.Biv1</p>

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.
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Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

No exposure scenario is presented because the product is not classified for Human Health

Contributing scenarios: Operational conditions and risk management measures

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 conditions 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): 1.40E-11

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Optigear 1100/460

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

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. Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment	0.31
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:	7700.8
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):	No exposure scenario is presented because the product is not classified for Human Health

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	No exposure scenario is presented because the product is not classified for Human Health

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	468862-DE03
Product name	Optigear 1100/460

Section 1: Title

Short title of the exposure scenario	General use of lubricants and greases in vehicles or machinery - Professional
List of use descriptors	<p>Identified use name: General use of lubricants and greases in vehicles or machinery-Professional</p> <p>Process Category: PROC01, PROC02, PROC08b, PROC09</p> <p>Sector of end use: SU03</p> <p>Subsequent service life relevant for that use: No.</p> <p>Environmental Release Category: ERC04, ERC07</p> <p>Specific Environmental Release Category: ATIEL-ATC SPERC 4.Biv1</p>

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.
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Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

No exposure scenario is presented because the product is not classified for Human Health

Contributing scenarios: Operational conditions and risk management measures

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 conditions 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): 5.00E-04

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Optigear 1100/460

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

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. Sewage sludge should be incinerated, contained or reclaimed.
Conditions and measures related to sewage treatment plant:	
Estimated substance removal from wastewater via on-site sewage treatment	0.31
Assumed domestic sewage treatment plant flow rate (m ³ /d)	2.00E+3
Maximum allowable site tonnage (M _{Safe}) based on release following total wastewater treatment removal as product:	86.4
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):	No exposure scenario is presented because the product is not classified for Human Health

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	No exposure scenario is presented because the product is not classified for Human Health