

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

1.1 Product identifier

Product name	Castrol ON EV Transmission Fluid D1
UFI:	C7P0-6082-X00A-7NY6
Product code	470478-DE01
SDS #	470478
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	EV Transmission Fluid - Dry e-motor For specific application advice see appropriate Technical Data Sheet or consult our company representative. For professional users only.
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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
<u>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</u>	

Asp. Tox. 1, H304

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:	C7P0-6082-X00A-7NY6
Hazard pictograms	



Signal word	Danger
Hazard statements	H304 - May be fatal if swallowed and enters airways. H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General	P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
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SECTION 2: Hazards identification

Prevention	P273 - Avoid release to the environment.
Response	P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage	P405 - Store locked up.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
Supplemental label elements	Not applicable.
<u>EU Regulation (EC) No. 1907/2006 (REACH)</u>	
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
<u>Special packaging requirements</u>	
Containers to be fitted with child-resistant fastenings	Yes, applicable.
Tactile warning of danger	Yes, applicable.

2.3 Other hazards	
Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.
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.

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
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	REACH #: 01-2119474889-13 EC: 276-738-4 CAS: 72623-87-1 Index: 649-483-00-5	≥75 - ≤90	Asp. Tox. 1, H304	-	[1]
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	REACH #: 01-2119474878-16 EC: 276-737-9 CAS: 72623-86-0 Index: 649-482-00-X	≤3	Asp. Tox. 1, H304	-	[1]
Distillates (petroleum), solvent-dewaxed heavy paraffinic	REACH #: 01-2119471299-27 UK (GB) REACH #: UK-01-0119695008-1 EC: 265-169-7 CAS: 64742-65-0 Index: 649-474-00-6	≤3	Asp. Tox. 1, H304	-	[1]
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	REACH #: 01-2119826592-36 EC: 934-954-2 CAS: -	≤3	Asp. Tox. 1, H304	-	[1]

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reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	REACH #: 01-2119480426-35 01-2120052100-80 CAS: 192268-65-8 Index: 607-501-00-9	<1	Repr. 2, H361d Aquatic Chronic 4, H413	-	[1] [2]
zinc isodecyl phosphorodithioate	REACH #: 01-2120767616-43 EC: 246-618-6 CAS: 25103-54-2	≤0.3	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
2,6-di-tert-butylphenol	REACH #: 01-2119490822-33 EC: 204-884-0 CAS: 128-39-2	≤0.3	Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]

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

[1] Substance classified with a health or environmental hazard

[2] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

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.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

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

Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Skin contact

Defatting to the skin. May cause skin dryness and irritation.

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. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

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(UK)

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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

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, CO₂) (carbon monoxide, carbon dioxide)

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

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.

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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 swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. 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.

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). Store locked up. 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

No exposure limit value known.

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.

DNELs/DMELs

Not available.

PNECs

Not 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

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SECTION 8: Exposure controls/personal protection

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.
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.
- 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.

SECTION 8: Exposure controls/personal protection**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

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: >180°C (>356°F) [Cleveland ASTM D 92]

Auto-ignition temperature

Ingredient name	°C	°F	Method
Distillates (petroleum) hydrotreated middle	225	437	

Decomposition temperature

Not available.

pH

Not applicable.

Kinematic viscosity

Kinematic: 18 mm²/s (18 cSt) at 40°C
Kinematic: 4.3 to 4.8 mm²/s (4.3 to 4.8 cSt) (ASTM D 445)

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

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SECTION 9: Physical and chemical properties

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	<0.07501	<0.01	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy paraffinic	<0.07501	<0.01	ASTM D 5191			
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	<0.07501	<0.01	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<0.07501	<0.01	ASTM D 5191			
Distillates (petroleum), solvent-refined heavy paraffinic	<0.07501	<0.01	ASTM D 5191			

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 -48 °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**

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

Result**Rat - Oral - LD50**

>5000 mg/kg
OECD 423

Rat - Dermal - LD50

>5000 mg/kg
OECD 402

Rat - Inhalation - LC50 Dusts and mists

>5 mg/l [4 hours]
OECD 403

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

Rat - Oral - LD50

>5000 mg/kg
OECD 401

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SECTION 11: Toxicological information

Distillates (petroleum), solvent-dewaxed heavy paraffinic	Rat - Dermal - LD50 >2000 mg/kg OECD 402
	Rat - Inhalation - LC50 Dusts and mists >5 mg/l [4 hours] OECD 403
	Rat - Oral - LD50 >5000 mg/kg OECD 401
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	Rat - Dermal - LD50 >2000 mg/kg OECD 402
	Rat - Inhalation - LC50 Dusts and mists >5.53 mg/l [4 hours] OECD 403
	Rat - Oral - LD50 >5000 mg/kg OECD 401
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	Rabbit - Dermal - LD50 >2000 mg/kg OECD 402
	Rat - Inhalation - LC50 Dusts and mists >5 mg/l [4 hours] OECD 403
	Rat - Oral - LD50 >2000 mg/kg OECD 401
zinc isodecyl phosphorodithioate	Rabbit - Dermal - LD50 >2000 mg/kg
	Rat - Oral - LD50 3100 mg/kg OECD 401
	Rat - Dermal - LD50 >5000 mg/kg OECD 402
2,6-di-tert-butylphenol	Rat - Oral - LD50 >5000 mg/kg OECD 401
	Rabbit - Dermal - LD50 >5000 mg/kg

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 isodecyl phosphorodithioate	2500	N/A	N/A	N/A	N/A

Skin corrosion/irritation

Product/ingredient name	Result
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SECTION 11: Toxicological informationLubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based**Rabbit - Skin - Non-irritant to skin.**
OECD 404Lubricating oils (petroleum), C15-30,
hydrotreated neutral oil-based**Rabbit - Skin - Non-irritant to skin.**
OECD 404Distillates (petroleum), solvent-dewaxed heavy
paraffinic**Rabbit - Skin - Non-irritant to skin.**Hydrocarbons, C13-C16, n-alkanes, isoalkanes,
cyclics, <0.03% aromatics**Rabbit - Skin - Not irritant**
OECD 404reaction mass of: triphenylthiophosphate and
tertiary butylated phenyl derivatives**Rabbit - Skin - Non-irritant to skin.**
OECD 404

zinc isodecyl phosphorodithioate

Unspecified - Skin - Non-irritant to skin.
OECD 431

2,6-di-tert-butylphenol

Rabbit - Skin - Irritant
OECD 404**Serious eye damage/eye irritation****Product/ingredient name**Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based**Result****Rabbit - Eyes - Severe irritant**
OECD 405Lubricating oils (petroleum), C15-30,
hydrotreated neutral oil-based**Rabbit - Eyes - Non-irritating to the eyes.**
OECD 405Distillates (petroleum), solvent-dewaxed heavy
paraffinic**Rabbit - Eyes - Non-irritating to the eyes.**
OECD 405Hydrocarbons, C13-C16, n-alkanes, isoalkanes,
cyclics, <0.03% aromatics**Rabbit - Eyes - Not irritant**
OECD 405reaction mass of: triphenylthiophosphate and
tertiary butylated phenyl derivatives**Rabbit - Eyes - Non-irritating to the eyes.**
OECD 405

zinc isodecyl phosphorodithioate

Unspecified - Eyes - Non-irritating to the eyes.
OECD 437

2,6-di-tert-butylphenol

Rabbit - Eyes - Non-irritating to the eyes.
OECD 405**Respiratory corrosion/irritation**

Not available.

Respiratory or skin sensitization**Product/ingredient name**Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based**Result****Guinea pig - skin**
OECD 406
Result: Not sensitisingLubricating oils (petroleum), C15-30,
hydrotreated neutral oil-based**Guinea pig - skin**
OECD 406
Result: Not sensitisingDistillates (petroleum), solvent-dewaxed heavy
paraffinic**Guinea pig - skin**
OECD 406
Result: Not sensitisingHydrocarbons, C13-C16, n-alkanes, isoalkanes,
cyclics, <0.03% aromatics**Guinea pig - skin**
OECD 406
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SECTION 11: Toxicological information

reaction mass of: triphenylthiophosphate and
tertiary butylated phenyl derivatives

Guinea pig - skin
OECD 406
Result: Not sensitising

zinc isodecyl phosphorodithioate

Guinea pig - skin
OECD 406
Result: Not sensitising

2,6-di-tert-butylphenol

Guinea pig - skin
OECD 406
Result: Not sensitising

Germ cell mutagenicity**Product/ingredient name**

Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based

Result**In vitro - Bacteria**

OECD [Bacterial Reverse Mutation Test]
Result: Negative

In vitro - Mammal - species unspecified

OECD [In vitro Mammalian Chromosomal Aberration Test]
Result: Positive

In vivo - Mammal - species unspecified

OECD [Mammalian Erythrocyte Micronucleus Test]
Result: Negative

In vitro - Mammal - species unspecified

OECD [In vitro Mammalian Cell Gene Mutation Test]
Result: Negative

Lubricating oils (petroleum), C15-30,
hydrotreated neutral oil-based

In vitro - Bacteria

OECD [Bacterial Reverse Mutation Test]
Result: Negative

In vitro - Mammal - species unspecified

OECD [In vitro Mammalian Chromosomal Aberration Test]
Result: Negative

In vitro - Unspecified

OECD [In vitro Mammalian Cell Gene Mutation Test]
Result: Negative

In vivo - Mammal - species unspecified

OECD [Mammalian Erythrocyte Micronucleus Test]
Result: Negative

Distillates (petroleum), solvent-dewaxed heavy
paraffinic

In vitro - Bacteria

OECD [Bacterial Reverse Mutation Test]
Result: Negative

In vitro - Mammal - species unspecified

OECD [In vitro Mammalian Chromosomal Aberration Test]
Result: Negative

Hydrocarbons, C13-C16, n-alkanes, isoalkanes,
cyclics, <0.03% aromatics

In vitro - Bacteria

OECD [Bacterial Reverse Mutation Test]
Result: Negative

In vitro - Mammal - species unspecified

OECD [In vitro Mammalian Chromosomal Aberration Test]
Result: Negative

In vitro - Unspecified

OECD [In vitro Mammalian Cell Gene Mutation Test]
Result: Negative

In vivo - Mammal - species unspecified

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	OECD [Mammalian Erythrocyte Micronucleus Test] <u>Result:</u> Negative
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	In vitro - Bacteria OECD [Bacterial Reverse Mutation Test] <u>Result:</u> Negative In vitro - Mammal - species unspecified OECD [In vitro Mammalian Chromosomal Aberration Test] <u>Result:</u> Negative In vitro - Mammal - species unspecified OECD [In vitro Mammalian Cell Gene Mutation Test] <u>Result:</u> Negative
zinc isodecyl phosphorodithioate	In vitro - Bacteria OECD [Bacterial Reverse Mutation Test] <u>Result:</u> Negative In vivo - Mammal - species unspecified OECD [Mammalian Erythrocyte Micronucleus Test] <u>Result:</u> Negative
2,6-di-tert-butylphenol	In vitro - Bacteria OECD [Bacterial Reverse Mutation Test] <u>Result:</u> Negative In vitro - Mammal - species unspecified OECD [In vitro Mammalian Chromosomal Aberration Test] <u>Result:</u> Negative
Carcinogenicity	
Product/ingredient name Distillates (petroleum), solvent-dewaxed heavy paraffinic	Result Mouse - Dermal - Unspecified OECD 451 <u>Result:</u> Negative
Reproductive toxicity	
Product/ingredient name Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	Result Rat - Oral OECD 421 <u>Maternal toxicity:</u> Negative <u>Fertility effects:</u> Negative <u>Developmental:</u> Negative
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Rat - Oral OECD 421 <u>Maternal toxicity:</u> Negative <u>Fertility effects:</u> Negative <u>Developmental:</u> Negative
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	Rat - Inhalation OECD 422 <u>Maternal toxicity:</u> Negative <u>Fertility effects:</u> Negative <u>Developmental:</u> Negative
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	Rat - Oral OECD 421 <u>Maternal toxicity:</u> Negative <u>Fertility effects:</u> Negative <u>Developmental:</u> Negative
zinc isodecyl phosphorodithioate	Rat - Oral OECD 421 <u>Maternal toxicity:</u> Negative

SECTION 11: Toxicological information

2,6-di-tert-butylphenol

Fertility effects: Negative
Developmental: Negative

Rat - Oral
OECD 421
Maternal toxicity: Positive
Fertility effects: Negative
Developmental: Equivocal

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name

Result

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based
Distillates (petroleum), solvent-dewaxed heavy paraffinic
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics

ASPIRATION HAZARD - Category 1
ASPIRATION HAZARD - Category 1
ASPIRATION HAZARD - Category 1
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

Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

Skin contact

Defatting to the skin. May cause skin dryness and irritation.

Eye contact

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation

May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs.

Ingestion

Adverse symptoms may include the following:
nausea or vomiting

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

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

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SECTION 11: Toxicological information

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

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

Result

Acute - NOEL

OECD 201
Algae
≥100 mg/l [72 hours]

Acute - EL50

OECD 202
Daphnia
>10000 mg/l [48 hours]

Acute - LL50

OECD 203
Fish
>100 mg/l [96 hours]

Chronic - NOEL

OECD 211
Daphnia
≥1000 mg/l [21 days]

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

Acute - ErL50

OECD 201
Algae
100 mg/l [72 hours]

Chronic - NOELR

OECD 201
Algae
100 mg/l [72 hours]

Acute - EL50

OECD 202
Daphnia
>1000 mg/l [48 hours]

Chronic - NOELR

OECD 211
Daphnia
10 to 1000 mg/l [21 days]

Acute - LL50

OECD 203
Fish
>100 mg/l [96 hours]

Distillates (petroleum), solvent-dewaxed heavy paraffinic

Acute - EL50

OECD 201
Algae
>100 mg/l [72 hours]

Acute - EL50

OECD 202
Daphnia
>10000 mg/l [48 hours]

Acute - LL50

OECD 203
Fish
>100 mg/l [96 hours]

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Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	Chronic - NOEL OECD 201 Algae ≥100 mg/l [72 hours]
	Chronic - NOEL OECD 211 Daphnia 10 mg/l [21 days]
	Acute - ErL50 ISO 10253 Algae >10000 mg/l [72 hours]
	Acute - EL50 ISO 14669 Other - <i>Acartia tonsa</i> >1000 mg/l [48 hours]
	Acute - LL50 OECD 203 Fish >1028 mg/l [96 hours]
	Acute - EC50 OECD 201 Algae >100 mg/l [72 hours]
	Acute - EC50 OECD 202 Daphnia >100 mg/l [48 hours]
	Acute - LC50 OECD 203 Fish >100 mg/l [96 hours]
	Chronic - NOEC OECD 201 Algae >100 mg/l [72 hours]
	Chronic - NOEC OECD 211 Daphnia 0.026 mg/l [21 days]
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	Chronic - NOEC OECD 210 Fish 0.0044 mg/l [87 days]
	Acute - ErC50 OECD 201 Algae >1.6 mg/l [72 hours]
	Acute - EC50 OECD 202 Daphnia 0.2 mg/l [48 hours]
	Acute - LC50 OECD 203 Fish >0.28 mg/l [96 hours]
zinc isodecyl phosphorodithioate	

SECTION 12: Ecological information

2,6-di-tert-butylphenol	Acute - EL50 OECD 201 Algae 1.2 mg/l [96 hours]
	Acute - EL50 OECD 202 Daphnia 0.45 mg/l [48 hours]
	Acute - LC50 OECD 203 Fish 1.4 mg/l [96 hours]
	Chronic - NOEC OECD 201 Algae 0.64 mg/l [96 hours]
	Chronic - NOEC OECD 211 Daphnia 0.035 mg/l [21 days]

Environmental hazards Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

Expected to be biodegradable.

Product/ingredient name	Result
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD 301F 31% [28 days] - Inherent
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD 301F 31% [28 days] - Not readily
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	OECD 301F 60% [28 days] - Readily
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	OECD 301D 0% [28 days] - Not readily
zinc isodecyl phosphorodithioate	OECD 301b 1% [28 days] - Not readily
2,6-di-tert-butylphenol	OECD 301B 24% [28 days] - Not readily

12.3 Bioaccumulative potential

This product is not expected to bioaccumulate through food chains in the environment.

Product/ingredient name	LogP _{ow}	BCF	Potential
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	4.8 to 8.8	-	High
2,6-di-tert-butylphenol	4.5	-	High

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logK _{oc}	K _{oc}
2,6-di-tert-butylphenol	3.5	3181.17

Results of PMT and vPvM assessment

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Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	No	No	No	No	No	No	No
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	No	No	No	No	No	No	No
Distillates (petroleum), solvent-dewaxed heavy paraffinic	No	No	No	No	No	No	No
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	No	No	No	No	No	No	No
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	No	No	No	No	No	No	No
zinc isodecyl phosphorodithioate	No	No	No	No	No	No	No
2,6-di-tert-butylphenol	No	No	No	No	No	No	No

Mobility

Spillages may penetrate the soil causing ground water contamination.

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
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	No	N/A	N/A	No	N/A	N/A	N/A
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	Yes	Yes	Yes	Yes	N/A	N/A	N/A
zinc isodecyl phosphorodithioate	No	N/A	N/A	No	N/A	N/A	N/A
2,6-di-tert-butylphenol	No	N/A	N/A	No	N/A	N/A	N/A

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	No	No	No	No	No	No	No
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	No	No	No	No	No	No	No
Distillates (petroleum), solvent-dewaxed heavy paraffinic	No	No	No	No	No	No	No
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, <0.03% aromatics	No	No	No	No	No	No	No
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	No	No	No	No	No	No	No
zinc isodecyl phosphorodithioate	No	No	No	No	No	No	No
2,6-di-tert-butylphenol	No	No	No	No	No	No	No

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(United Kingdom)

SECTION 12: Ecological information

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.

Other ecological information

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

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.

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.

SECTION 14: Transport information

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

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	PBT	Candidate	D(2024) 7663-DC	1/21/2025

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

Product/ingredient name	%	Designation [Usage]
BOT 352 B1 BEV (Neuhof) - Parent	95-100	3 3 [Lamp fuel] 3 [Grill lighter fluid]

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 (AIC)

All components are listed or exempted.

Canada inventory

All components are listed or exempted.

China inventory (IECSC)

At least one component is not listed.

Japan inventory (CSCL)

All components are listed or exempted.

Korea inventory (KECI)

At least one component is not listed.

Philippines inventory (PICCS)

At least one component is not listed.

Taiwan Chemical Substances Inventory (TCSI)

All components are listed or exempted.

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

Classification	Justification
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.

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SECTION 16: Other information

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 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
	Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
	Repr. 2	REPRODUCTIVE TOXICITY - Category 2
	Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
	STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision	11/12/2025.
Date of previous issue	No previous validation.
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 ensure that this document is the most current available. Alteration of this document is strictly prohibited.

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Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	470478-DE01
Product name	Castrol ON EV Transmission Fluid D1

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.
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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
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Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
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Frequency and duration of use:	Covers daily exposures up to 8 hours
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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

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

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 wastewater from process (after typical onsite RMMs and before sewage treatment plan) 2.00E-11

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 0.09

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: 1587.9

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	470478-DE01
Product name	Castrol ON EV Transmission Fluid D1

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.
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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) 5.00E-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) 2.50E-04

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 for waste water to be discharged via public sewer system.

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 0.09

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: 20.1

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.