

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-DE41
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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Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	1/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

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.
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	Yes, applicable.
Tactile warning of danger	Yes, 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 contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.
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]
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl	REACH #: 01-2119480426-35 01-2120052100-80	<1	Repr. 2, H361d Aquatic Chronic 4, H413	-	[1] [2]

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	2/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.			Language	ENGLISH

SECTION 3: Composition/information on ingredients

derivatives	CAS: 192268-65-8 Index: 607-501-00-9				
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.

Type

- [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
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.
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	No known significant effects or critical hazards.

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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Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	3/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

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.

Product name Castrol ON EV Transmission Fluid D1

Product code 470478-DE41

Page: 4/26

Version 7 **Date of issue** 26 February 2025

Format United Kingdom (UK)

Language ENGLISH

Date of previous issue 26 April 2024.

(United Kingdom)

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.
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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	No exposure limit value known.
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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.
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Derived No Effect Level	No DNELs/DMELs available.
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Predicted No Effect Concentration	No PNECs available
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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.
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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.
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Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	5/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

SECTION 8: Exposure controls/personal protection**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.

Product name Castrol ON EV Transmission Fluid D1

Product code 470478-DE41

Page: 6/26

Version 7

Date of issue 26 February 2025

Format United
Kingdom
(UK)
(United Kingdom)

Language ENGLISH

Date of previous issue 26 April 2024.

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	<table><tr><th>Ingredient name</th><th>°C</th><th>°F</th><th>Method</th></tr><tr><td>Distillates (petroleum) hydrotreated middle</td><td>225</td><td>437</td><td></td></tr></table>	Ingredient name	°C	°F	Method	Distillates (petroleum) hydrotreated middle	225	437																										
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)																																	
Solubility	<table><tr><th>Media</th><th>Result</th></tr><tr><td>water</td><td>Not soluble</td></tr></table>	Media	Result	water	Not soluble																													
Media	Result																																	
water	Not soluble																																	
Partition coefficient n-octanol/ water (log value)	Not applicable.																																	
Vapour pressure	<table><tr><th rowspan="2">Ingredient name</th><th colspan="2">Vapour Pressure at 20°C</th><th colspan="3">Vapour pressure at 50°C</th></tr><tr><th>mm Hg</th><th>kPa</th><th>Method</th><th>mm Hg</th><th>kPa</th><th>Method</th></tr><tr><td>Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based</td><td><0.07501</td><td><0.01</td><td>ASTM D 5191</td><td></td><td></td><td></td></tr><tr><td>Distillates (petroleum), hydrotreated heavy paraffinic</td><td><0.07501</td><td><0.01</td><td>ASTM D 5191</td><td></td><td></td><td></td></tr><tr><td>Lubricating oils</td><td><0.07501</td><td><0.01</td><td>ASTM D 5191</td><td></td><td></td><td></td></tr></table>	Ingredient name	Vapour Pressure at 20°C		Vapour pressure at 50°C			mm Hg	kPa	Method	mm Hg	kPa	Method	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	<0.07501	<0.01	ASTM D 5191			
Ingredient name	Vapour Pressure at 20°C		Vapour pressure at 50°C																															
	mm Hg	kPa	Method	mm Hg	kPa	Method																												
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	<0.07501	<0.01	ASTM D 5191																															

Product name

Castrol ON EV Transmission Fluid D1

Version 7

Date of issue

26 February 2025

Date of previous issue

26 April 2024.

Product code

470478-DE41

Format

United Kingdom (UK) (United Kingdom)

Page:

7/26

Language

ENGLISH

SECTION 9: Physical and chemical properties

	(petroleum), C15-30, hydrotreated neutral oil-based					
	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	Result / Route	Test authority / Number	Species	Dose	Exposure	Remarks
 Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	LC50 Inhalation Dusts and mists	OECD 403	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
	LD50 Dermal	OECD 402	Rat	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD 423	Rat	>5000 mg/kg	-	Based on studies with similar substances.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	LC50 Inhalation Dusts and mists	OECD 403	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
	LD50 Dermal	OECD 402	Rat	>2000 mg/kg	-	Based on studies with similar

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	8/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.			Language	ENGLISH

SECTION 11: Toxicological information

	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	substances. Based on studies with similar substances.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	LC50 Inhalation Dusts and mists	OECD	403	Rat	>5.53 mg/l	4 hours	-
	LD50 Dermal	OECD	402	Rat	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	Based on studies with similar substances.
Distillates (petroleum) hydrotreated middle	LC50 Inhalation Dusts and mists	OECD	403	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
	LD50 Dermal	OECD	402	Rabbit	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	Based on studies with similar substances.
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	LD50 Dermal	-	-	Rabbit	>2000 mg/kg	-	-
	LD50 Oral	OECD	401	Rat	>2000 mg/kg	-	-
zinc isodecyl phosphorodithioate	LD50 Dermal	OECD	402	Rat	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	3100 mg/kg	-	Based on studies with similar substances.
2,6-di-tert-butylphenol	LD50 Dermal	-	-	Rabbit	>5000 mg/kg	-	-
	LD50 Oral	OECD	401	Rat	>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

Irritation/Corrosion

SECTION 11: Toxicological information

Product/ingredient name	Test authority / Test number		Species	Route / Result		Test concentration	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD	405	Rabbit	Eyes - Severe irritant	-		Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Non-irritant to skin.	-		Based on studies with similar substances.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-		Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Non-irritant to skin.	-		Based on studies with similar substances.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-		Based on studies with similar substances.
	-	-	Rabbit	Skin - Non-irritant to skin.	-		Based on studies with similar substances.
Distillates (petroleum) hydrotreated middle	OECD	405	Rabbit	Eyes - Not irritant	-		Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Not irritant	-		Based on studies with similar substances.
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-		-
	OECD	404	Rabbit	Skin - Non-irritant to skin.	-		-
zinc isodecyl phosphorodithioate	OECD	437	Unspecified	Eyes - Non-irritating to the eyes.	-		BCOP
	OECD	431	Unspecified	Skin - Non-irritant to skin.	-		RHE
2,6-di-tert-butylphenol	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-		-
	OECD	404	Rabbit	Skin - Irritant	-		-

Sensitiser

Product/ingredient name	Route	Test authority / Test number		Species	Result	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	skin	OECD	406	Guinea pig	Not sensitising	Based on studies with similar substances.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	skin	OECD	406	Guinea pig	Not sensitising	Based on studies with similar substances.
Distillates (petroleum),	skin	OECD	406	Guinea pig	Not sensitising	Based on studies

Product name		Castrol ON EV Transmission Fluid D1	Product code		470478-DE41	Page: 10/26
Version 7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)	Language	ENGLISH
Date of previous issue		26 April 2024.				

SECTION 11: Toxicological information

solvent-dewaxed heavy paraffinic						with similar substances.
Distillates (petroleum) hydrotreated middle	skin	OECD	406	Guinea pig	Not sensitising	-
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	skin	OECD	406	Guinea pig	Not sensitising	-
zinc isodecyl phosphorodithioate	skin	OECD	406	Guinea pig	Not sensitising	Based on studies with similar substances.
2,6-di-tert-butylphenol	skin	OECD	406	Guinea pig	Not sensitising	-

GERM CELL MUTAGENICITY

Product/ingredient name	Test authority / Test number	Cell		Type	Result	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Positive	Based on studies with similar substances.
	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	OECD 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Unspecified	Negative	Based on studies with similar substances.
	OECD 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.

SECTION 11: Toxicological information

Distillates (petroleum) hydrotreated middle	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Unspecified	Negative	Based on studies with similar substances.
	OECD 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
zinc isodecyl phosphorodithioate	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar substances.
	OECD 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
2,6-di-tert-butylphenol	OECD 471 Bacterial Reverse Mutation Test	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-

Carcinogenicity

Product/ingredient name	Test authority / Test number	Species	Route	Exposure	Result	Remarks
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD 451	Mouse	Dermal	-	Negative	Based on studies with similar substances.

Reproductive toxicity

SECTION 11: Toxicological information

Product/ ingredient name	Test authority / Test number		Species	Route	Exposure	Developmental	Maternal toxicity	Fertility	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD	421	Rat	Oral	-	Negative	Negative	Negative	Based on studies with similar substances.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD	421	Rat	Oral	-	Negative	Negative	Negative	Based on studies with similar substances.
Distillates (petroleum) hydrotreated middle	OECD	422	Rat	Inhalation	-	Negative	Negative	Negative	Based on studies with similar substances.
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	OECD	421	Rat	Oral	-	Negative	Negative	Negative	-
zinc isodecyl phosphorodithioate	OECD	421	Rat	Oral	-	Negative	Negative	Negative	-
2,6-di-tert-butylphenol	OECD	421	Rat	Oral	-	Equivocal	Positive	Negative	Not classified.

Aspiration hazard

Product/ingredient name	Result
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	ASPIRATION HAZARD - Category 1
Distillates (petroleum), solvent-dewaxed heavy paraffinic	ASPIRATION HAZARD - Category 1
Distillates (petroleum) hydrotreated middle	ASPIRATION HAZARD - Category 1

Conclusion/Summary	May be fatal if swallowed and enters airways. Classification on basis substance is a hydrocarbon and has a kinematic viscosity of 20.5 mm2/s or less, measured at 40°C.
Conclusion/Summary	Not available.
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.

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	13/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

SECTION 11: Toxicological information

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.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test authority / Test number		Species	Type / Result	Exposure	Effects	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD	202	Daphnia	Acute EL50 >10000 mg/l	48 hours	-	Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >100 mg/l	96 hours	-	Based on studies with similar substances.
	OECD	201	Algae	Acute NOEL ≥100 mg/l	72 hours	-	-
	OECD	211	Daphnia	Chronic NOEL ≥1000 mg/l	21 days	-	Based on studies with similar substances.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	OECD	202	Daphnia	Acute EL50 >1000 mg/l	48 hours	-	Based on studies with similar substances.
	OECD	201	Algae	Acute ErL50 100 mg/l	72 hours	-	Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >100 mg/l	96 hours	-	Based on studies with similar substances.
	OECD	201	Algae	Chronic NOELR 100 mg/l	72 hours	-	Based on studies with similar substances.
	OECD	211	Daphnia	Chronic NOELR 10 to 1000 mg/l	21 days	-	Based on studies

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	14/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.			Language	ENGLISH

SECTION 12: Ecological information

Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD	201	Algae	Acute EL50 >100 mg/l	72 hours	-	with similar substances.
							Based on studies with similar substances.
	OECD	202	Daphnia	Acute EL50 >10000 mg/l	48 hours	-	Based on studies with similar substances.
							Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >100 mg/l	96 hours	-	Based on studies with similar substances.
Distillates (petroleum) hydrotreated middle	OECD	201	Algae	Chronic NOEL ≥100 mg/l	72 hours	-	Based on studies with similar substances.
							Based on studies with similar substances.
	OECD	211	Daphnia	Chronic NOEL 10 mg/l	21 days	-	Based on studies with similar substances.
							Based on studies with similar substances.
	ISO	14669	Other - <i>Acartia tonsa</i>	Acute EL50 >1000 mg/l	48 hours	-	Based on studies with similar substances.
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	ISO	10253	Algae	Acute ErL50 >10000 mg/l	72 hours	-	Based on studies with similar substances.
							Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >1028 mg/l	96 hours	-	Based on studies with similar substances.
zinc isodecyl phosphorodithioate	OECD	201	Algae	Acute EC50 >100 mg/l	72 hours	-	-
	OECD	202	Daphnia	Acute EC50 >100 mg/l	48 hours	-	-
	OECD	203	Fish	Acute LC50 >100 mg/l	96 hours	-	-
	OECD	201	Algae	Chronic NOEC >100 mg/l	72 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 0.026 mg/ l	21 days	-	-
	OECD	210	Fish	Chronic NOEC 0.0044 mg/l	87 days	-	-
zinc isodecyl phosphorodithioate	OECD	202	Daphnia	Acute EC50 0.2 mg/l	48 hours	-	-
	OECD	201	Algae	Acute ErC50 >1.6 mg/l	72 hours	-	-

Product name Castrol ON EV Transmission Fluid D1**Product code** 470478-DE41**Page:** 15/26**Version** 7 **Date of issue** 26 February 2025**Format** United
Kingdom
(UK)**Language** ENGLISH**Date of previous issue** 26 April 2024.

(United Kingdom)

SECTION 12: Ecological information

2,6-di-tert-butylphenol	OECD	203	Fish	Acute LC50 >0.28 mg/l	96 hours	-	-
	OECD	201	Algae	Acute EL50 1.2 mg/l	96 hours	-	-
	OECD	202	Daphnia	Acute EL50 0.45 mg/l	48 hours	-	-
	OECD	203	Fish	Acute LC50 1.4 mg/l	96 hours	-	-
	OECD	201	Algae	Chronic NOEC 0.64 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 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	Test authority / Test number	Result - Exposure	Remarks
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD 301F	31 % - Inherent - 28 days	Based on studies with similar substances.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	OECD 301F	31 % - Not readily - 28 days	Based on studies with similar substances.
Distillates (petroleum) hydrotreated middle	OECD 301F	60 % - Readily - 28 days	-
reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	OECD 301D	0 % - Not readily - 28 days	-
zinc isodecyl phosphorodithioate	OECD 301b	1 % - Not readily - 28 days	Based on studies with similar substances.
2,6-di-tert-butylphenol	OECD 301B	24 % - Not readily - 28 days	-

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 (K_{oc}) Not available.

Mobility Spillages may penetrate the soil causing ground water contamination.

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.

SECTION 12: Ecological information

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	SVHC (Candidate)	Specified	Specified	Specified	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

- 12.6 Endocrine disrupting properties

Not available.
- 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	-	-	-	-

SECTION 14: Transport information

14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user Not available.

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

SECTION 15: Regulatory information

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

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

[Annex XIV - List of substances subject to authorisation](#)

[Annex XIV](#)

None of the components are listed.

[Substances of very high concern](#)

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
Reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	PBT	Candidate	2025D(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]
Castrol ON EV Transmission Fluid D1	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 (AIIIC) 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 \(1005/2009/EU\)](#)

Not listed.

[Prior Informed Consent \(PIC\) \(649/2012/EU\)](#)

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	18/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

SECTION 15: Regulatory information

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

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

Product name	Castrol ON EV Transmission Fluid D1	Product code	470478-DE41	Page:	19/26
Version	7	Date of issue	26 February 2025	Format	United Kingdom (UK) (United Kingdom)
Date of previous issue	26 April 2024.	Language	ENGLISH		

SECTION 16: Other information

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

Full text of abbreviated H statements	H226 H302 H304 H312 H315 H318 H332 H335 H361d H400 H410 H413 EUH066	Flammable liquid and vapour. Harmful if swallowed. May be fatal if swallowed and enters airways. Harmful in contact with skin. Causes skin irritation. Causes serious eye damage. Harmful if inhaled. May cause respiratory irritation. Suspected of damaging the unborn child. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. May cause long lasting harmful effects to aquatic life. Repeated exposure may cause skin dryness or cracking.
Full text of classifications [CLP/GHS]	Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 4 Asp. Tox. 1 Eye Dam. 1 Flam. Liq. 3 Repr. 2 Skin Irrit. 2 STOT SE 3	ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 FLAMMABLE LIQUIDS - Category 3 REPRODUCTIVE TOXICITY - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision	26/02/2025.
Date of previous issue	26/04/2024.
Prepared by	Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

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

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

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Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	470478-DE41
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
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 conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. 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 chemical-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

Castrol ON EV Transmission Fluid D1

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

points when contact with warm (>50°C) lubricant is likely. Wear chemical-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 conditions 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.
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 0.09

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-DE41
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	<p>Identified use name: General use of lubricants and greases in vehicles or machinery-Professional</p> <p>Process Category: PROC01, PROC02, PROC08a, PROC08b, PROC20</p> <p>Sector of end use: SU22</p> <p>Subsequent service life relevant for that use: No.</p> <p>Environmental Release Category: ERC09a, ERC09b</p> <p>Specific Environmental Release Category: ESVOC SpERC 9.6b.v1</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

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 conditions affecting workers exposure:	Assumes use at not more than 20°C above ambient temperature. 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 per day. Wear chemical-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 conditions 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. 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 0.09

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.