SAFETY DATA SHEET

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

1.1 Product identifier

Product name **Castrol Transmax Manual V 75W-80**

Product code 469686-DE01

SDS # 469686

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 Manual transmission fluid.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

1.3 Details of the supplier of the safety data sheet

Supplier

Lubricants UK Limited,
Chertsey Road,
Sunbury On Thames,
Middlesex,
TW16 7BP

+44 (0)345 600 8125

E-mail address MSDSadvice@bp.com

1.4 Emergency telephone number

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition Mixture

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

Aquatic Chronic 2, H411

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

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

2.2 Label elements

Hazard pictograms

Signal word No signal word.

Hazard statements H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

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

Prevention P273 - Avoid release to the environment.

Response P391 - Collect spillage.

Storage Not applicable.

SECTION 2: Hazards identification

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

Hazardous ingredients Not applicable.

Supplemental label elements Contains Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl. May produce an allergic reaction.

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

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings Not applicable.

Tactile warning of danger Not applicable.

2.3 Other hazards

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

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification Defatting to the skin.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition Mixture

Synthetic base stock. Proprietary performance additives.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
1-Decene, homopolymer, hydrogenated	REACH #: 01-2119486452-34 EC: 500-183-1 CAS: 68037-01-4	≥25 - ≤50	Asp. Tox. 1, H304	-	[1]
Dec-1-ene, trimers, hydrogenated	REACH #: 01-2119493949-12 EC: 500-393-3 CAS: 157707-86-3	≥25 - ≤50	Asp. Tox. 1, H304	-	[1]
Reaction products of 4-methyl-2-pentanol and diphosphorus pentasulfide, propoxylated, esterified with diphosphorus pentaoxide, and salted by amines, C12-14- tert-alkyl	REACH #: 01-2119493620-38 EC: 931-384-6 CAS: -	≤3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/kg Eye Irrit. 2, H319: C ≥ 50% Skin Sens. 1, H317: C ≥ 9.39%	[1]
Distillates (petroleum), hydrotreated light paraffinic	REACH #: 01-2119487077-29 EC: 265-158-7 CAS: 64742-55-8 Index: 649-468-00-3	≤3	Asp. Tox. 1, H304	-	[1]
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	REACH #: 01-2119473797-19 EC: 627-034-4 CAS: 1213789-63-9	≤0.3	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg M [Acute] = 10 M [Chronic] = 10	[1]
isodecyl methacrylate	REACH #:	≤0.3	Skin Irrit. 2, H315	STOT SE 3, H335: C	[1]

SECTION 3: Composition/information on ingredients

	01-2119894925-17 EC: 249-978-2 CAS: 29964-84-9 Index: 607-134-00-4		Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	≥ 10% M [Acute] = 1 M [Chronic] = 1	
dec-1-ene	REACH #: 01-2119457739-21 EC: 212-819-2 CAS: 872-05-9	≤0.3	Flam. Liq. 3, H226 Asp. Tox. 1, H304 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

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 unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if symptoms occur.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

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

Potential acute health effects

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

Ingestion No known significant effects or critical hazards.

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

Eye contact No known significant effects or critical hazards.

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

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

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

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

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

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

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

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)
metal oxide/oxides

SECTION 5: Firefighting measures

5.3 Advice for firefighters

Special precautions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Contact emergency personnel. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment.

For emergency responders

Entry into a confined space or poorly ventilated area contaminated with vapour, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

Protective measures

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

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep away from heat and direct sunlight. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/ containers designed for use with this product. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Not suitable

Prolonged exposure to elevated temperature

7.3 Specific end use(s)

Recommendations

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

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Product/ingredient name	Exposure limit values

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

Recommended monitoring procedures

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

Derived No Effect Level

No DNELs/DMELs available.

Predicted No Effect Concentration

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.
All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained.
Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.
The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.
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

SECTION 8: Exposure controls/personal 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.

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.

SECTION 8: Exposure controls/personal protection

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 Amber.

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: >200°C (>392°F) [Cleveland]

Auto-ignition temperature

Ingredient name	°C	°F	Method
1-Decene, homopolymer, hydrogenated	343 to 369	649.4 to 696.2	ASTM D 2159
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	343 to 369	649.4 to 696.2	ASTM D 2159

Decomposition temperature Not available.

pH Not applicable.

Kinematic viscosity

Kinematic: 40 mm^2/s (40 cSt) at 40°C
Kinematic: 8.1 mm^2/s (8.1 cSt) at 100°C

Solubility

Media	Result
water	Not soluble

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

Vapour pressure

	Vapour Pressure at 20°C			Vapour pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
1-Decene, homopolymer, hydrogenated	<0.0041	<0.00055	ASTM E 1194-87			
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	<0.0041	<0.00055	ASTM E 1194-87			
diisodecyl azelate	0	0				
Distillates (petroleum), hydrotreated light paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), hydrotreated heavy	<0.08	<0.011	ASTM D 5191			

SECTION 9: Physical and chemical properties

	paraffinic
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	<-60 °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
1-Decene, homopolymer, hydrogenated	LD50 Dermal	OECD	402	Rat	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	423	Rat	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Inhalation Dusts and mists	OECD	403	Rat	>5.2 mg/l	4 hours	-
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	LD50 Dermal	OECD	402	Rat	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	420	Rat	>2000 mg/kg	-	-
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	LD50 Oral	OECD	401	Rat	2000 mg/kg	-	-

SECTION 11: Toxicological information

Distillates (petroleum), hydrotreated light paraffinic	LD50 Dermal	OECD	402	Rabbit	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	Based on studies with similar substances.
	LD50 Inhalation Dusts and mists	OECD	403	Rat	>5 mg/l	4 hours	Based on studies with similar substances.
(Z)-octadec-9-enylamine	LD50 Oral	OECD	401	Rat	1689 mg/kg	-	-
isodecyl methacrylate	LD50 Dermal	OSHA	-	Rabbit	>3000 mg/kg	-	-
	LD50 Oral	OSHA	-	Rat	>5000 mg/kg	-	-
dec-1-ene	LD50 Dermal	OECD	402	Rabbit	>2000 mg/kg	-	Based on studies with similar substances.
	LD50 Oral	OECD	401	Rat	>5000 mg/kg	-	-
	LD50 Inhalation Vapour	OECD	403	Rat	>20 mg/l	4 hours	Based on studies with similar substances.

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)
Castrol Transmax Manual V 75W-80	19914.9	N/A	N/A	N/A	N/A
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	500	N/A	N/A	N/A	N/A
(Z)-octadec-9-enylamine	500	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Test authority / Test number		Species	Route / Result	Test concentration	Remarks
1-Decene, homopolymer, hydrogenated	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-	-
	OECD	404	Rabbit	Skin - Non-irritant to skin.	-	-
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Non-irritant to skin.	-	-
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	FHSA	16CFR1500	Rabbit	Eyes - Irritant	-	<50% Non-irritating to the eyes.

SECTION 11: Toxicological information

	OECD	404	Rabbit	Skin - Non-irritant to skin.	-	-
Distillates (petroleum), hydrotreated light paraffinic	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Mild irritant	-	Based on studies with similar substances.
(Z)-octadec-9-enylamine	OECD	405	Rabbit	Eyes - Severe irritant	-	-
	OECD	404	Rabbit	Skin - Visible necrosis	-	-
isodecyl methacrylate	-	-	Rabbit	Eyes - Irritant	-	-
	-	-	Rabbit	Skin - Irritant	-	-
dec-1-ene	OECD	405	Rabbit	Eyes - Non-irritating to the eyes.	-	Based on studies with similar substances.
	OECD	404	Rabbit	Skin - Mild irritant	-	Based on studies with similar substances.

Sensitiser

Product/ingredient name	Route	Test authority / Test number		Species	Result	Remarks
1-Decene, homopolymer, hydrogenated	skin	OECD	406	Guinea pig	Not sensitising	-
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	skin	OECD	406	Guinea pig	Not sensitising	-
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	skin	OECD	429	Mouse	Sensitising	<9.39% Non-sensitiser to skin.
Distillates (petroleum), hydrotreated light paraffinic	skin	OECD	406	Guinea pig	Not sensitising	Based on studies with similar substances.
isodecyl methacrylate	skin	OECD	429	Mouse	Not sensitising	-
dec-1-ene	skin	OECD	406	Guinea pig	Not sensitising	Based on studies with similar substances.

GERM CELL MUTAGENICITY

Product/ingredient name	Test authority / Test number	Cell		Type	Result	Remarks
1-Decene, homopolymer, hydrogenated	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	Based on studies with similar substances.

SECTION 11: Toxicological information

	OECD 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	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 474 Mammalian Erythrocyte Micronucleus Test	-	Experiment: In vivo	Subject: Mammal - species unspecified	Negative	Based on studies with similar substances.
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	OECD 471	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	OECD 476	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	OECD 474	Cell: Somatic	Experiment: In vitro	Subject: Unspecified	Negative	-
Distillates (petroleum), hydrotreated light 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.
(Z)-octadec-9-enylamine	OECD 471	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	OECD 476	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	OECD 473	-	Experiment: In vitro	Subject: Unspecified	Negative	-
isodecyl methacrylate	OECD 471	-	Experiment: In vitro	Subject: Bacteria	Negative	-
	Equivalent to OECD 476	-	Experiment: In vitro	Subject: Mammal - species unspecified	Negative	-
	OECD 473	-	Experiment: In vitro	Subject: Unspecified	Negative	-
dec-1-ene	OECD 471	-	Experiment: In vitro	Subject: Bacteria	Negative	Based on studies with similar

SECTION 11: Toxicological information

						substances.
	OECD 473	-	Experiment: In vitro	Subject: Mammalian-Animal	Negative	Based on studies with similar substances.
	OECD 474	-	Experiment: In vivo	Subject: Mammalian-Animal	Negative	Based on studies with similar substances.

Reproductive toxicity

Product/ingredient name	Test authority / Test number		Species	Route	Exposure	Developmental	Maternal toxicity	Fertility	Remarks
1-Decene, homopolymer, hydrogenated	OECD	415	Rat	Oral	-	Negative	Negative	Negative	-
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	OECD	415	Rat	Oral	-	Negative	Negative	Negative	-
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	OECD	421	Rat	Oral	-	Negative	Positive	Negative	-
Distillates (petroleum), hydrotreated light paraffinic	OECD	421	Rat	Oral	-	Negative	Negative	Negative	Based on studies with similar substances.
(Z)-octadec-9-enylamine	OECD	421	Rat	Oral	-	Negative	Positive	Negative	Based on studies with similar substances.
isodecyl methacrylate	OECD	422	Rat	Oral	-	Negative	Negative	Negative	Based on studies with similar substances.
dec-1-ene	OECD	422	Rat	Oral	-	Negative	Negative	Negative	-

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

Potential acute health effects

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

Ingestion No known significant effects or critical hazards.

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

Eye contact No known significant effects or critical hazards.

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 No specific data.

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

Eye contact No specific data.

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

SECTION 11: Toxicological information

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

Ingestion Ingestion of large quantities may cause nausea and diarrhoea.

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

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

Potential chronic health effects

General No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Remarks - Endocrine disruptor - Health 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
1-Decene, homopolymer, hydrogenated	Equivalent to OECD	201	Algae	Acute EL50 >1000 mg/l	72 hours	-	-
	OECD	202	Daphnia	Acute EL50 >1000 mg/l	48 hours	-	-
	OECD	203	Fish	Acute LL50 >1000 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOELR 125 mg/l	21 days	-	-
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated	OECD	201	Algae	Acute EL50 >1000 mg/l	72 hours	-	Based on studies with similar substances.
	OECD	202	Daphnia	Acute EL50 >1000 mg/l	48 hours	-	Based on studies with similar substances.
	OECD	203	Fish	Acute LL50 >1000 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOELR 125 mg/l	21 days	-	Based on studies with similar substances.
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	OECD	202	Daphnia	Acute EC50 91.4 mg/l	48 hours	-	-
	OECD	201	Algae	Acute ErC50 6.4 mg/l	96 hours	-	-
	OECD	203	Fish	Acute LC50 24 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic EC50 0.66 mg/l	21 days	-	-

SECTION 12: Ecological information

	OECD	201	Algae	Chronic NOEC 1.7 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 0.12 mg/l	21 days	-	-
Distillates (petroleum), hydrotreated light paraffinic	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	Chronic NOEL ≥100 mg/l	72 hours	-	Based on studies with similar substances.
	OECD	211	Daphnia	Chronic NOEL 10 mg/l	21 days	-	Based on studies with similar substances.
(Z)-octadec-9-enylamine	OECD	201	Algae	Acute ErC50 0.04 mg/l	96 hours	-	-
	EPA	OPPTS 850.1085	Fish	Acute LC50 0.06 mg/l	96 hours	-	-
	OECD	201	Algae	Chronic NOEC 0.01 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 0.013 mg/l	21 days	-	-
isodecyl methacrylate	-	-	Algae	Acute ErC50 >0.0169 mg/l	72 hours	-	-
	DIN	38412	Fish	Acute LC50 100 mg/l	48 hours	-	-
	-	-	Algae	Chronic NOEC 0.012 mg/l	72 hours	-	-
	-	-	Daphnia	Chronic NOEC 0.0542 mg/l	21 days	-	-
dec-1-ene	OECD	202	Daphnia	Acute EC50 0.56 to 1 mg/l	48 hours	-	-
	OECD	201	Algae	Acute ErC50 1 to 1.8 mg/l	72 hours	-	-
	-	-	Fish	Acute LC50 >1.5 mg/l	96 hours	-	-
	OECD	211	Daphnia	Chronic NOEC 19.4 mg/l	21 days	-	-

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

12.2 Persistence and degradability

Not expected to be rapidly degradable.

SECTION 12: Ecological information

Product/ingredient name	Test authority / Test number	Result - Exposure	Remarks
Amines, C12-14-alkyl, reaction products with hexanol, phosphorus oxide (P2O5), phosphorus sulphide (P2S5) and propylene oxide	OECD 301B	7.4 % - Not readily - 28 days	-
Distillates (petroleum), hydrotreated light paraffinic	OECD 301F	31 % - Not readily - 28 days	Based on studies with similar substances.
(Z)-octadec-9-enylamine	OECD 301B	66 % - Readily - 28 days	-
isodecyl methacrylate	OECD 310	62 % - Not readily - 28 days	-
dec-1-ene	OECD 301F	>80 % - 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
Dec-1-ene, homopolymer, hydrogenated	>10	-	high
Dec-1-ene, trimers, hydrogenated	>10	-	high
(Z)-octadec-9-enylamine, C16-18-(even numbered, saturated and unsaturated)-alkylamines	4.33	-	high
monoalkyl or monoaryl or monoalkyaryl esters of methacrylic acid	6.45 to 7.44	37	low
dec-1-ene	5.12	-	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.

12.6 Endocrine disrupting properties Not available.

Remarks - Endocrine disruptor - Environment 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)

SECTION 13: Disposal considerations

Waste code	Waste designation
13 02 08*	other 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.

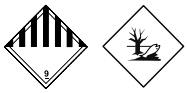
Packaging

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	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. ((Z)-octadec-9-enylamine)	Environmentally hazardous substance, liquid, n.o.s. ((Z)-octadec-9-enylamine)	Environmentally hazardous substance, liquid, n.o.s.. Marine pollutant ((Z)-octadec-9-enylamine)	Environmentally hazardous substance, liquid, n.o.s. ((Z)-octadec-9-enylamine)
14.3 Transport hazard class(es)	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.
Additional information	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Hazard identification number** 90 **Tunnel code** -	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Emergency schedules** F-A, S-F	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

14.6 Special precautions for user Not available.

UK Emergency Action Code: •3Z
ADR/RID Classification code: M6
ADN Classification code: M6
14.7 Maritime transport in bulk according to IMO instruments Not available.

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.

Other regulations

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

EU - Water framework directive - Priority substances

None of the components are listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
E2

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

SECTION 16: Other information

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

SECTION 16: Other information

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]

Classification	Justification
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

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 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

History

Date of issue/ Date of revision 22/02/2024.

Date of previous issue 04/01/2024.

Prepared by Product Stewardship Group

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.

Annex to the extended Safety Data Sheet (eSDS)

Professional

Identification of the substance or mixture

Product definition	Mixture
Code	469686-DE01
Product name	Castrol Transmax Manual V 75W-80

Section 1: Title

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

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other 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)	1.00E-04
Release fraction to soil from process (after typical onsite RMMs)	1E-03
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater.
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. 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	69.1
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	19111
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

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

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

Section 4: Guidance to check compliance with the exposure scenario

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

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

Annex to the extended Safety Data Sheet (eSDS)

Industrial

Identification of the substance or mixture

Product definition	Mixture
Code	469686-DE01
Product name	Castrol Transmax Manual V 75W-80

Section 1: Title

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

Section 2 Operational conditions and risk management measures

Section 2.1 Control of worker exposure

Product characteristics:

Physical state:	Liquid, vapour pressure < 0.5 kPa
Concentration of substance in product:	Covers use of substance/product up to 100 % (unless stated differently)
Frequency and duration of use:	Covers daily exposures up to 8 hours
Other 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 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 air (after typical onsite RMMs)	5.00E-05
Release fraction to soil from process (after typical onsite RMMs)	0
Release fraction to wastewater from process (after typical onsite RMMs and before sewage treatment plan)	Not available.
Technical conditions and measures at process level (source) to prevent release:	Common practices vary across sites thus conservative process release estimates used.
Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil:	Prevent discharge of undissolved substance to or recover from onsite wastewater. User sites are assumed to be provided with oil/water separators and waste water to be discharged via a sewage treatment plant
Organisational measures to prevent/limit release from site:	Do not apply industrial sludge to natural soils. 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	69.1
Assumed domestic sewage treatment plant flow rate (m3/d)	2.00E+3
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal as product:	7594049
Conditions and measures related to external treatment of waste for disposal:	External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:	External recovery and recycling of waste should comply with applicable local and/or national regulations.

Section 3: Exposure estimation and reference to its source

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

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

Section 4: Guidance to check compliance with the exposure scenario

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