

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

1.1 Product identifier

Product name	Castrol Radicool SF Premix
UFI:	1TV2-K0R8-N00R-REJR
Product code	467493-BE07
SDS #	467493
Product type	Liquid.

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

Use of the substance/ mixture	Coolant and antifreeze. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
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1.3 Details of the supplier of the safety data sheet

Supplier	Castrol Holdings Europe B.V., d'Arcyweg 76, 3198NA Europoort Rotterdam BP Italia S.p.A. Sede Legale via G.De Castillia 23 20124 Milano (Mi), Italia +39 (0)800 906347
E-mail address	MSDSadvice@bp.com

1.4 Emergency telephone number

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

TELEPHONE NUMBER

Italy Poison Center

1. CAV, Azienda ospedaliera "Antonio Cardarelli", III Servizio di anestesia e rianimazione, via Antonio Cardarelli 9, Napoli – Tel: 081-5453333;
2. CAV, Azienda ospedaliera universitaria Careggi, U.O. Tossicologia medica, via Largo Brambilla 3, Firenze – Tel: 055-7947819;
3. CAV, Centro nazionale d'informazione tossicologica, IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione, via Salvatore Maugeri 10, Pavia – Tel: 0382-24444;
4. CAV, Azienda ospedaliera Niguarda Ca' Grande, piazza Ospedale Maggiore 3, Milano -Tel: 02-66101029;
5. CAV, Azienda ospedaliera "Papa Giovanni XXIII", tossicologia clinica, Dipartimento di farmacia clinica e farmacologia, piazza OMS 1, Bergamo- Tel: 800883300;
6. CAV "Umberto I", PRGM tossicologia d'urgenza, viale del Policlinico 155, Roma – Tel: 06-49978000;
7. CAV del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica, largo Agostino Gemelli 8, Roma- Tel: 06-3054343;
8. CAV, Azienda ospedaliera universitaria riuniti, viale Luigi Pinto 1, Foggia- Tel: 800183459;
9. CAV, Ospedale pediatrico Bambino Gesù, Dipartimento emergenza e accettazione DEA, piazza Sant'Onofrio 4, Roma – Tel: 06 68593726;
10. CAV dell'Azienda ospedaliera universitaria integrata (AOUI) di Verona sede di Borgo Trento, piazzale Aristide Stefani, 1 - 37126 Verona -Tel: 800011858.

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]

Acute Tox. 4, H302

Repr. 1B, H360D

STOT RE 2, H373 (kidneys)

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.

Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page:	1/13
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH
					(Italy)

SECTION 2: Hazards identification

2.2 Label elements

UFI:	1TV2-K0R8-N00R-REJR
Hazard pictograms	
Signal word	Danger
Hazard statements	H302 - Harmful if swallowed. H360D - May damage the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys)
Precautionary statements	
General	P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
Prevention	P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
Response	P308 + P313 - IF exposed or concerned: Get medical attention. P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
Storage	P405 - Store locked up.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	Ethylene glycol Sodium 2-ethylhexanoate
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	Restricted to professional users.
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 does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product definition	Mixture
Ethylene glycol Corrosion inhibitor.	

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
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Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page: 2/13	
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH

SECTION 3: Composition/information on ingredients

Ethylene glycol	REACH #: 01-2119456816-28 EC: 203-473-3 CAS: 107-21-1 Index: 603-027-00-1	≥25 - ≤50	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	ATE [Oral] = 500 mg/ kg	[1] [2]
Sodium 2-ethylhexanoate	EC: 243-283-8 CAS: 19766-89-3	≤3	Repr. 1B, H360D	-	[1]
Methyl-1h-benzotriazole	REACH #: 01-2119979081-35 EC: 249-596-6 CAS: 29385-43-1	<1	Acute Tox. 4, H302 Repr. 2, H361d Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/ kg	[1]

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures**4.1 Description of first aid measures****Eye contact**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if irritation develops.

Skin contact

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention.

Inhalation

If inhaled, remove to fresh air. Get medical attention immediately.

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 immediately. If ingested, call a physician or Poison Control Center immediately. Get medical attention urgently informing the doctor that a product containing ethylene glycol has been ingested and specific treatment may be required. Transport casualty together with the product container, its label, or the safety data sheet urgently to hospital. 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.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

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

Potential acute health effects**Inhalation**

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

Ingestion

Harmful if swallowed. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).

Skin contact

No known significant effects or critical hazards.

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****Specific treatments**

Ethylene Glycol: Gastric irrigation, ethanol or fomepizole may have value in treatment. Consult physician.

Product name Castrol Radicool SF Premix

Product code 467493-BE07

Page: 3/13

Version 8 **Date of issue** 8 January 2024

Format Italy

Language ENGLISH

Date of previous issue 31 August 2023.

(Italy)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.

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)
metal oxide/oxides

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.

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).

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

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Product name Castrol Radicool SF Premix

Product code 467493-BE07

Page: 4/13

Version 8 **Date of issue** 8 January 2024

Format Italy

Language ENGLISH

Date of previous issue 31 August 2023.

(Italy)

SECTION 7: Handling and storage

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.
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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Ethylene glycol	Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy). Absorbed through skin. 8 hours: 20 ppm 8 hours. Issued/Revised: 3/2004 8 hours: 52 mg/m³ 8 hours. Issued/Revised: 3/2004 Short Term: 40 ppm 15 minutes. Issued/Revised: 3/2004 Short Term: 104 mg/m³ 15 minutes. Issued/Revised: 3/2004

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

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

Biological exposure indices

Product/ingredient name	Exposure indices
No exposure indices known.	

Derived No Effect Level

Product/ingredient name	Type	Exposure	Value	Population	Effects	
Ethylene glycol	DNEL	Long term Inhalation	-	35 mg/m³	Workers	Local
	DNEL	Long term Dermal	-	106 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	-	7 mg/m³	General population	Local
	DNEL	Long term Dermal	-	53 mg/kg bw/day	General population	Systemic
Sodium 2-ethylhexanoate	DNEL	Long term Inhalation	-	14 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	-	2 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	-	3.5 mg/m³	General population	Systemic
	DNEL	Long term Dermal	-	1 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	-	1 mg/kg bw/day	General population	Systemic

Predicted No Effect Concentration

Product/ingredient name	Compartment Detail	Value	Method Detail
Sodium 2-ethylhexanoate	Fresh water	0.36 mg/l	-
	Marine water	0.036 mg/l	-

Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page:	5/13
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH

SECTION 8: Exposure controls/personal protection**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**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: Butyl gloves.
Neoprene 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

SECTION 8: Exposure controls/personal protection

on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

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

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Skin and body

Use of protective clothing is good industrial practice.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

Refer to standards:

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

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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	Red.
Odour	Faint odour.
Odour threshold	Not available.
Melting point/freezing point	-37°C (-34.6°F)
Initial boiling point and boiling range	109°C (228.2°F)
Flammability	Not available.
Lower and upper explosion limit	Not available.
Flash point	

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
Ethylene glycol	111	231.8				

Ingredient name	°C	°F	Method
Ethylene glycol	398	748.4	

Auto-ignition temperature	
Decomposition temperature	Not available.
pH	8.4
Kinematic viscosity	Not available.
Solubility	

SECTION 9: Physical and chemical properties

	Media	Result																																	
	water	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> Water</td><td>23.8</td><td>3.2</td><td></td><td></td><td></td><td></td></tr><tr><td>Ethylene glycol</td><td>0.09</td><td>0.012</td><td></td><td></td><td></td><td></td></tr><tr><td>Sodium 2-ethylhexanoate</td><td><0.000000008</td><td><0.0000000011</td><td></td><td><0.000000008</td><td><0.0000000011</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	 Water	23.8	3.2					Ethylene glycol	0.09	0.012					Sodium 2-ethylhexanoate	<0.000000008	<0.0000000011		<0.000000008	<0.0000000011	
Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C																															
	mm Hg	kPa	Method	mm Hg	kPa	Method																													
 Water	23.8	3.2																																	
Ethylene glycol	0.09	0.012																																	
Sodium 2-ethylhexanoate	<0.000000008	<0.0000000011		<0.000000008	<0.0000000011																														
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.																																		

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

SECTION 11: Toxicological information

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

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Castrol Radicool SF Premix	1045.7	N/A	N/A	N/A	N/A
Ethylene glycol	500	N/A	N/A	N/A	N/A
Methyl-1h-benzotriazole	500	N/A	N/A	N/A	N/A

Information on likely routes of exposure	Routes of entry anticipated: Dermal, Inhalation, Eyes.
Potential acute health effects	
Inhalation	Vapour inhalation under ambient conditions is not normally a problem due to low vapour pressure.
Ingestion	Harmful if swallowed. Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, and convulsions. The estimated human lethal dose is approximately 100 ml (3.4 ounces for an adult).
Skin contact	No known significant effects or critical hazards.
Eye contact	No known significant effects or critical hazards.
Symptoms related to the physical, chemical and toxicological characteristics	

Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page:	8/13
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH
			(Italy)		

SECTION 11: Toxicological information

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	No specific data.
Eye contact	No specific data.

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

Inhalation	Overexposure to the inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.
Ingestion	Ingestion of large quantities may cause nausea and diarrhoea.
Skin contact	Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.
Eye contact	Potential risk of transient stinging or redness if accidental eye contact occurs.

Potential chronic health effects

General	May cause damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure. (kidney)
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Developmental effects	May damage the unborn child. Birth defects and decreased fetal weight have been observed in laboratory animals fed ethylene glycol in large amounts repeatedly during pregnancy.
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**

Environmental hazards	Not classified as dangerous
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12.2 Persistence and degradability

Expected to be biodegradable.

12.3 Bioaccumulative potential

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

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.

Product name Castrol Radicool SF Premix**Product code** 467493-BE07**Page:** 9/13**Version** 8 **Date of issue** 8 January 2024**Format** Italy**Language** ENGLISH**Date of previous issue** 31 August 2023.**(Italy)**

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal Undiluted fluid Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations. Diluted Fluid Diluted fluid should not be discharged into sewage systems unless provided for by local regulations. Dispose under conditions approved by the local authority or via a licensed waste disposal contractor.

Hazardous waste Yes.

European waste catalogue (EWC)

Waste code	Waste designation
16 01 14*	antifreeze fluids containing hazardous substances

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.

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

Diluted FluidDiluted fluid should not be discharged into sewage systems unless provided for by local regulations. Dispose under conditions approved by the local authority or via a licensed waste disposal contractor.

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

SECTION 14: Transport information

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

14.6 Special precautions for user Not available.

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.
Substances of very high concern
None of the components are listed.

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
Restricted to professional users.

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) Not determined.

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

Canada inventory All components are listed or exempted.

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

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

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

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

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

EU - Water framework directive - Priority substances

None of the components are listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

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

Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page:	11/13
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH
					(Italy)

SECTION 16: Other information

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
Acute Tox. 4, H302 Repr. 1B, H360D STOT RE 2, H373 (kidneys)	Calculation method Calculation method Calculation method
Full text of abbreviated H statements	H302 H360D H361d H373 H411
Full text of classifications [CLP/GHS]	Harmful if swallowed. May damage the unborn child. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects. ACUTE TOXICITY - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 REPRODUCTIVE TOXICITY - Category 1B REPRODUCTIVE TOXICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

History

Date of issue/ Date of revision	08/01/2024.
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Prepared by	Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

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

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

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP

Product name	Castrol Radicool SF Premix	Product code	467493-BE07	Page:	12/13
Version	8	Date of issue	8 January 2024	Format	Italy
Date of previous issue	31 August 2023.			Language	ENGLISH
				(Italy)	

SECTION 16: Other information

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