SAFETY DATA SHEET



	cation of the substance/mixture and of the company/undertaking
1.1 Product identifier	. ,
Product name	Castrol Radicool SF Premix
Product code	#67493-BE07
SDS no.	467493
Product type	Liquid.
1.2 Relevant identified uses	s 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.
1.3 Details of the supplier o	f the safety data sheet
Supplier	BP Petrolleri A.Ş.
	Değirmen Yolu Čad. No:28 Kat: 3 Asya Ofis Park 34752 İçerenköy / Ataşehir, İstanbul TURKEY
	Telephone: 0216 5712800 Fax: 0216 5712950
E-mail address	MSDSadvice@bp.com
EMERGENCY TELEPHONE NUMBER	CASTROL DIRECT 0212 473 77 37 Carechem: +44 (0) 1235 239 670 (24 hours) Ministry of Health National Poison Information Centre: 114 (24 hours)
SECTION 2: Hazard	s identification
2.1 Classification of the sub	stance or mixture
Product definition	Mixture
Classification	PECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
2.2 Label elements	
Hazard pictograms	
Signal word	Warning
Hazard statements	₩373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	
Prevention	₱260 - Do not breathe vapour.
Response	314 - Get medical attention if you feel unwell.
Storage	Not applicable.
Disposal	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

Special packaging requirements

Containers to be fitted with child-resistant fastenings

Not applicable.

Not applicable.

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SECTION 2: Hazards identification

Tactile warning of danger Yes

Yes, applicable.

2.3 Other hazards

Other hazards which do None known. not result in classification

SECTION 3: Composition/information on ingredients

Substance/mixture	Mixture			
Ethylene glycol Corrosion inhibito	ır.			
Product/ingredient name	CAS no.	%	Classification	Туре
Ethylene glycol	107-21-1	≥75 - <90	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	[1] [2]
sodium 2-ethylhexanoate	19766-89-3	≥1 - <3	Repr. 2, H361d (Unborn child)	[1]

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Туре

Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Persistent, bioaccumulative and toxic (PBT) substance

[4] Very persistent and very bioaccumulative (vPvB) substance

[5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

in Booonprion of mot and me	
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 symptoms occur.
Skin contact	If 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 if symptoms occur.
Inhalation	Finhaled, remove to fresh air. Get medical attention if symptoms occur.
Ingestion	Set medical attention if adverse health effects persist or are severe. 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. 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.

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media	
Suitable extinguishing media	r 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.

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SECTION 5: Firefighting measures 5.2 Special hazards arising from the substance or mixture **I** a fire or if heated, a pressure increase will occur and the container may burst. Hazards from the substance or mixture **Hazardous combustion** Combustion products may include the following: carbon dioxide products carbon monoxide metal oxide/oxides 5.3 Advice for firefighters **Special precautions for** Fromptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire-fighters fire. No action shall be taken involving any personal risk or without suitable training. **Special protective** Fre-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Clothing for fire-fighters (including helmets, protective boots and gloves) equipment for fire-fighters 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, prot	tective equipment and emergency procedures	
For non-emergency personnel No action shall be taken involving any personal risk or without suitable training. Evacual surrounding areas. Keep unnecessary and unprotected personnel from entering. Do no or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilia Put on appropriate personal protective equipment. Floors may be slippery; use care to falling. Contact emergency personnel.		
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	Noid 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 o	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 han	dling
Protective measures	Fut on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. 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. Do not breathe vapour or mist.
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.

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SECTION 7: Handling	and storage
7.2 Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
Not suitable	Frolonged exposure to elevated temperature
7.3 Specific end use(s)	
Recommendations	Not available.
•	e controls/personal protection
8.1 Control parameters <u>Occupational exposure limits</u>	
Product/ingredi	-
Ethylene glycol	TR ISGGM OEL (Turkey). Absorbed through skin. TWA: 52 mg/m³ 8 hours. Issued/Revised: 12/2003 TWA: 20 ppm 8 hours. Issued/Revised: 12/2003 STEL: 104 mg/m³ 15 minutes. Issued/Revised: 12/2003 STEL: 40 ppm 15 minutes. Issued/Revised: 12/2003
	n components may be shown in this section, other components may be present in any mist, refore, the specific OELs may not be applicable to the product as a whole and are provided for
Recommended monitoring procedures	If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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.
8.2 Exposure controls	
Appropriate engineering controls	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 Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. 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 measur	—
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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory protection	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.

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SECTION 8: Exposure controls/personal protection

Hand protection	Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Butyl gloves. Neoprene gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment
Skin and body	of the working conditions. See of protective clothing is good industrial practice. 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. 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.
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

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	
Physical state	Liquid.
Colour	Red.
Odour	F ∕aint odour.
Odour threshold	Not available.
pH	8.4
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	柯.0013 kPa (<0.01 mm Hg) [20°C (68°F)]
Vapour density	Not available.
Relative density	Not available.
Density	<mark>∲0</mark> 00 kg/m³ (1 g/cm³) at 15°C
Solubility(ies)	Miscible in water.
Partition coefficient: n-octanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2 Other information

No additional information.

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SECTION 10: Stability and reactivity						
10.1 Reactivity No specific test data available for this product. Refer to Conditions to avoid and I materials for additional information.						
10.2 Chemical stability	The product is stable.					
10.3 Possibility of hazardous reactions	Inder 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	void 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 toxicological effects

Acute toxicity estimates

	Route	ATE value		
Not available.				
Information on the likely routes of exposure	Routes of entry anticipated: Dermal, Inhalation	n.		
Potential acute health effect	<u>ts</u>			
Inhalation	Papour inhalation under ambient conditions is pressure.	not normally a problem due to low vapour		
Ingestion	Ethylene glycol: Ingestion of ethylene glycol c central nervous system depression, and conv approximately 100 ml (3.4 ounces for an adult	ulsions. The estimated human lethal dose is		
Skin contact	No known significant effects or critical hazard	S.		
Eye contact	No known significant effects or critical hazard	S.		
Symptoms related to the ph	ysical, chemical and toxicological characterist	<u>tics</u>		
Inhalation	\mathbf{M} ay 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 effe	cts and also chronic effects from short and lo	<u>ng term exposure</u>		
Inhalation	Overexposure to the inhalation of airborne dro respiratory tract.	oplets or aerosols may cause irritation of the		
Ingestion	Ingestion of large quantities may cause nause	ea and diarrhoea.		
Skin contact	Prolonged or repeated contact can defat the s	skin and lead to irritation and/or dermatitis.		
Eye contact	Potential risk of transient stinging or redness i	if accidental eye contact occurs.		
Potential chronic health effe	ects			
General	May cause damage to organs through prolong	ged or repeated exposure. (kidney)		
Carcinogenicity	No known significant effects or critical hazard	S.		
Mutagenicity	No known significant effects or critical hazard	S.		
Teratogenicity	No known significant effects or critical hazard	S.		
Developmental effects	Birth defects and decreased fetal weight have glycol in large amounts repeatedly during pres	e been observed in laboratory animals fed ethyle gnancy.		
Fertility effects	No known significant effects or critical hazard	S.		

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SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards

Not classified as dangerous

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 v	PvB assessment
PBT	Not applicable.
vPvB	Not applicable.

12.6 Other adverse effects

Other ecological information Miscible in water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product	
Methods of disposal	Indiluted 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.
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	Indiluted 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

SECTION 14: Transport information

waste disposal contractor.

	ADR/RID	ADN	IMDG	IATA
14.1 UN 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.

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Additional -		-		-	-	
information						
14.6 Special precautions user	for Not available.					
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the II Code	Not available.					
SECTION 15: Reg	ulatory informa	tion				
15.1 Safety, health and e	nvironmental regulati	ons/legislatio	on specific fo	r the substance or m	ixture	
No known specific nationa	and/or regional regula	itions applicab	le to this prod	uct (including its ingre	dients).	
Other regulations						
Australia inventory (Al	CS) All component	s are listed or	exempted.			
Canada inventory	All component	s are listed or	exempted.			
China inventory (IECS			-			
Japan inventory (ENC			-			
Korea inventory (KEC) All component	s are listed or	exempted.			
Philippines inventory (PICCS)	All component	s are listed or	exempted.			
REACH Status The company, as identified in Section 1, sells this product in the EU in compliance with current requirements of REACH.					EU in compliance with the	
Taiwan inventory (CSNN) Not determined.						
United States inventor (TSCA 8b)		All components are listed or exempted.				
SECTION 16: Oth	er information					
Abbreviations and acrony	ADN = Europe Inland Waterwa ADR = The Eu Road ATE = Acute T BCF = Biocond CAS = Chemic GHS = Globally IATA = Interna IBC = Interna LogPow = loga MARPOL 73/74 modified by the OECD = Orgar PBT = Persiste RID = The Reg SADT = Self-A STOT-RE = Sp STOT-SE = Sp TWA = Time w UN = United N UVCB = Comp VOC = Volatile	an Provisions ay ropean Agreen entration Fact al Abstracts S y Harmonized tional Air Tran liate Bulk Com ational Maritim rithm of the or B = Internation e Protocol of 1 hisation for Eco instation for Eco ent, Bioaccum yulations conce ccelerating De becific Target (becific Targ	concerning the ment concerning te or ervice System of Cla sport Associat tainer e Dangerous of ctanol/water pa lal Convention 978. ("Marpol" onomic Co-op- ulative and To: erning the Inte ecomposition To Organ Toxicity Organ Toxicity Organ Toxicity ge	e International Carriag ng the International Carriag ssification and Labelli ion Goods artition coefficient for the Prevention of = marine pollution) eration and Developm kic rnational Carriage of I Temperature - Repeated Exposure - Single Exposure	Pollution From Ships, 1973 a ent Dangerous Goods by Rail	
Full text of abbreviated H statements	vPvB = Very Persistent and Very Bioaccumulative1Harmful if swallowed.1Harmful if swallowed.H361d (Unborn child)Suspected of damaging the unborn child.H373 (kidneys)May cause damage to organs through prolonged or representation.					
ull text of classifications CLP/GHS]	Repr. 2, H3610		ACUTE TOX	wallowed. (kidneys) (ICITY (oral) - Catego (EPRODUCTION (Un	ry 4 born child) - Category 2	
child) STOT RE 2, H373 (kidneys) (oral) STOT RE 2, H373 (kidneys) SPECIFIC TARGET ORGAN TOXICITY (REPEATED (cral)						

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SECTION 16: Other information

<u>History</u>		
Date of issue/ Date of revision	5 June 2015	
Date of previous issue	8 December 2011.	
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.

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