

SAFETY DATA SHEET



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

1.1 Product identifier

Product name	Castrol Radicool Si-OAT
Product code	468096-DE51
SDS no.	468096
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	BP Petrolleri A.Ş. Değirmen Yolu Cad. No:28 Kat: 3 Asya Ofis Park 34752 İçerenköy / Ataşehir, İstanbul TURKEY
E-mail address	MSDSadvice@bp.com

1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER	CASTROL DIRECT 0212 473 77 37 Carechem: +44 (0) 1235 239 670 (24/7) Ministry of Health National Poison Information Centre: 114 (24 hours)
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to regulation SEA: RG.-11/12/2013-28848

Acute Tox. 4, H302
STOT RE 2, H373

The product is classified as hazardous according to Regulation SEA: RG.-11/12/2013-28848.

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

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

2.2 Label elements

Hazard pictograms



Signal word Warning

Hazard statements
H302 - Harmful if swallowed.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

P260 - Do not breathe vapour.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response

P314 - Get medical attention if you feel unwell.
P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

Storage

Not applicable.

Disposal

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

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 2/9

Version 2 **Date of issue** 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

SECTION 2: Hazards identification

Hazardous ingredients ethane-1,2-diol

Supplemental label elements Not applicable.

Special packaging requirements

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

Tactile warning of danger Yes, applicable.

2.3 Other hazards

Other hazards which do not result in classification None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures Mixture

Ethylene glycol; ethanediol.

Product/ingredient name	CAS no.	%	SEA: RG.-11/12/2013-28848	Type
ethane-1,2-diol	107-21-1	≥90	Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) (oral)	[1] [2]

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.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Additional disclosure due to company policy Substance meets the criteria for PBT

[4] Substance meets the criteria for vPvB

[5] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation If inhaled, remove to fresh air. Get medical attention if symptoms occur.

Ingestion 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.

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 if symptoms occur.

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.

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

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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

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

Hazardous combustion products

Combustion products may include the following:
carbon oxides (CO, CO₂) (carbon monoxide, carbon dioxide)

5.3 Advice for firefighters

Special precautions for fire-fighters

No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

Special protective equipment for fire-fighters

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. 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. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.

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 (see Section 8). Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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.

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 4/9

Version 2

Date of issue 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

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

Prolonged exposure to elevated temperature

7.3 Specific end use(s)

Recommendations

Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Ethylene glycol	TR ISGGM OEL (Turkey). Absorbed through skin. TWA: 52 mg/m ³ 8 hours. Issued/Revised: 12/2003 TWA: 20 ppm 8 hours. Issued/Revised: 12/2003 STEL: 104 mg/m ³ 15 minutes. Issued/Revised: 12/2003 STEL: 40 ppm 15 minutes. Issued/Revised: 12/2003

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

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 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. 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

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

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 5/9

Version 2

Date of issue 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

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 of the working conditions.

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.

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****Appearance**

Physical state	Liquid.
Colour	Pink.
Odour	Not available.
Odour threshold	Not available.
pH	8 [Conc. (% w/w): 100%]
Melting point/freezing point	<-18°C (<-0.4°F)
Initial boiling point and boiling range	>160°C (>320°F)
Flash point	Closed cup: >124°C (>255.2°F) [Pensky-Martens.]
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable. Based on - Physical state
Upper/lower flammability or explosive limits	Lower: 3.4% Upper: 15.1%
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Density	1122 to 1125 kg/m ³ (1.122 to 1.125 g/cm ³) at 20°C
Solubility(ies)	Miscible in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Kinematic: 20 to 30 mm ² /s (20 to 30 cSt) at 20°C
Explosive properties	Not available.
Oxidising properties	Not available.

9.2 Other information

No additional information.

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 excessive heat.
- 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
Oral	500 mg/kg

Information on likely routes of exposure

Routes of entry anticipated: Dermal, Inhalation.

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

Inhalation

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

Ingestion

Adverse symptoms may include the following:
nausea or vomiting

Skin contact

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. (kidney)

Carcinogenicity

No known significant effects or critical hazards.

Mutagenicity

No known significant effects or critical hazards.

Developmental effects

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.

SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards

Not classified as dangerous

12.2 Persistence and degradability

Expected to be biodegradable.

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 7/9

Version 2 Date of issue 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

SECTION 12: Ecological information

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

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

Methods of disposal

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. 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.

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.

SECTION 14: Transport information

	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.
Additional information	-	-	-	-

14.6 Special precautions for user Not available.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not available.

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 8/9

Version 2

Date of issue 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National inventory****Australia inventory (AICS)**

At least one component is not listed.

Canada inventory

At least one component is not listed.

China inventory (IECSC)

All components are listed or exempted.

Japan inventory (ENCS)

At least one component is not listed.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

At least one component is not listed.

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

Taiwan Chemical Substances Inventory (TCSI)

At least one component is not listed.

United States inventory (TSCA 8b)

All components are listed or exempted.

SECTION 16: Other information**Abbreviations and acronyms**

ACGIH = American Conference of Industrial Hygienists
 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
 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
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 SADT = Self-Accelerating Decomposition Temperature
 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 101316-69-2, 101316-70-5, 101316-71-6, 101316-72-7, 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 64741-97-5, 64742-01-4, 64742-44-5, 64742-45-6, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-57-0, 64742-58-1, 64742-62-7, 64742-63-8, 64742-64-9, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1, 74869-22-0, 90669-74-2

Full text of abbreviated H statements

H302 Harmful if swallowed.
 H373 (oral) May cause damage to organs through prolonged or repeated exposure if swallowed.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
 STOT RE 2, H373 (oral) SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (oral) - Category 2

History**Date of issue/ Date of revision**

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Date of previous issue

22 October 2018.

Prepared by

Product Stewardship

Banu Uzunoğlu , Regulatory Certificate Number and Date : GBF-A-0-2666 / 31.10.2017
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Indicates information that has changed from previously issued version.

[Notice to reader](#)

Conforms to the regulation on preparation and distribution of safety data sheets on hazardous materials and preparations 13.12.2014 – 29204.

Product name Castrol Radicool Si-OAT

Product code 468096-DE51

Page: 9/9

Version 2

Date of issue 15 November 2018

Format Turkey
(Turkey)

Language ENGLISH

SECTION 16: Other information

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.