



## Section 1. Identification

<b>GHS product identifier</b>	Castrol Radicool SF-O Premix
<b>Product code</b>	467305-IN15
<b>SDS no.</b>	467305
<b>Relevant identified uses of the substance or mixture and uses advised against</b>	
<b>Use of the substance/mixture</b>	Automotive coolant system (antifreeze/anticorrosion) concentrate. For specific application advice see appropriate Technical Data Sheet or consult our company representative.
<b>Manufacturer</b>	Castrol India Limited Technopolis Knowledge Park Mahakali Caves Road Andheri (East), MUMBAI 400 093 Maharashtra, India
<b>Supplier</b>	
	Contact : +91 22 66984100
<b>EMERGENCY TELEPHONE NUMBER</b>	Toll free: 000800 100 7479 (for use in India only - 24/7) Carechem Singapore: +65 3158 1198 (24/7)

## Section 2. Hazards identification

<b>GHS Classification</b>	ACUTE TOXICITY (oral) - Category 4 REPRODUCTIVE TOXICITY - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
<b>GHS label elements</b>	
<b>Hazard pictograms</b>	 
<b>Signal word</b>	Danger
<b>Hazard statements</b>	H302 - Harmful if swallowed. H360 - May damage fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
<b>Precautionary statements</b>	
<b>General</b>	P102 - Keep out of reach of children. P101 - If medical advice is needed, have product container or label at hand.
<b>Prevention</b>	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves, protective clothing and eye or face protection. P260 - Do not breathe vapour. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling.
<b>Response</b>	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.
<b>Storage</b>	P405 - Store locked up.
<b>Disposal</b>	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

## Section 3. Composition/information on ingredients

### Substance/mixture

Mixture

Ethylene glycol; ethanediol. Corrosion inhibitors

Ingredient name	%	CAS number
Ethylene glycol	≥25 - ≤50	107-21-1
Ethylene glycol	≥10 - ≤25	107-21-1
Sodium 2-ethylhexanoate	≤5	19766-89-3

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.

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

## Section 4. First aid measures

### Description of necessary 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 symptoms occur.

#### Inhalation

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

#### 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.

#### 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.

#### 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.

### Most important symptoms/effects, acute and delayed

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

### Indication of immediate medical attention and special treatment needed, if necessary

#### Specific treatments

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

#### Notes to physician

## Section 5. Firefighting measures

### Extinguishing media

#### Suitable

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

#### Not suitable

Do not use water jet.

### Specific hazards arising from the chemical

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

#### Hazardous thermal decomposition products

Combustion products may include the following:  
metal oxide/oxides  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)

### 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.

## Section 6. Accidental release measures

### 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".

#### 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).

### 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.

## Section 7. Handling and storage

### Precautions for safe handling

#### Protective measures

Put on appropriate personal protective equipment (see Section 8). 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. 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.

#### Conditions for safe storage

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. Store locked up. 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

Ensure product is stored in covered area away from direct sunlight, heat, rain and water exposure.



## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Ethylene glycol	<b>ACGIH TLV (United States, 1/2022).</b> STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Inhalable fraction. Aerosol only. STEL: 50 ppm 15 minutes. Form: Vapor fraction TWA: 25 ppm 8 hours. Form: Vapor fraction
Ethylene glycol	<b>ACGIH TLV (United States, 1/2022).</b> STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Inhalable fraction. Aerosol only. STEL: 50 ppm 15 minutes. Form: Vapor fraction TWA: 25 ppm 8 hours. Form: Vapor fraction

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.

#### Biological exposure indices

Ingredient name	Exposure indices
No exposure indices known.	

#### Recommended monitoring procedures

Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### 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.

#### 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.

### 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.

#### Eye protection

Safety glasses with side shields.

#### Skin 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.

## Section 8. Exposure controls/personal protection

### Skin protection

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.

### Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### 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.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

#### Physical state

Liquid.

#### Colour

Blue. [Dark]

#### Odour

Not available.

#### Odour threshold

Not available.

#### pH

9

#### Melting point/freezing point

Not available.

#### Boiling point, initial boiling point, and boiling range

Not available.

#### Drop Point

Not available.

#### Flash point

Closed cup: Not applicable. [Water content interferes with flash point determination.]

#### Evaporation rate

Not available.

#### Flammability

Not applicable. Based on - Physical state

#### Lower and upper explosion limit/flammability limit

Not available.

#### Vapour pressure

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				
Ethylene glycol	0.09	0.012				
Sodium 2-ethylhexanoate	<0.000000008	<0.0000000011		<0.000000008	<0.0000000011	

#### Relative vapour density

Not available.

#### Relative density

1.0691

#### Solubility(ies)

Media	Result
Water	Soluble

#### Partition coefficient: n-octanol/water

Not applicable.

#### Auto-ignition temperature

Ingredient name	°C	°F	Method
Ethylene glycol	398	748.4	
Ethylene glycol	398	748.4	

#### Decomposition temperature

Not available.

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## Section 9. Physical and chemical properties

**Viscosity** Not available.

### Particle characteristics

**Median particle size**  Not applicable.

## Section 10. Stability and reactivity

**Reactivity** No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.

**Chemical stability** The product is stable.

**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.

**Conditions to avoid** Avoid excessive heat.


**Incompatible materials** Reactive or incompatible with the following materials: oxidising materials.

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

## Section 11. Toxicological information


### Information on toxicological effects

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
 Ethylene glycol	Category 2	-	-

#### Aspiration hazard

Not available.

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

### Potential acute health effects

**Eye contact** No known significant effects or critical hazards.

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

**Skin contact** No known significant effects or critical hazards.

**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).

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** No specific data.

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

**Skin contact** No specific data.

**Ingestion** Adverse symptoms may include the following:  
nausea or vomiting

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

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

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


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

### 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.

**Teratogenicity**  May damage the unborn child.

**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.

### Numerical measures of toxicity

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## Section 11. Toxicological information

### Acute toxicity estimates

#### Route

Oral

#### ATE value

1014.04 mg/kg

## Section 12. Ecological information

### Environmental effects

No known significant effects or critical hazards.

### Persistence and degradability

Expected to be biodegradable.

### Bioaccumulative potential

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

### Mobility

Spillages may penetrate the soil causing ground water contamination.

### Other adverse effects

No known significant effects or critical hazards.

### Other ecological information

Miscible in water.

## Section 13. Disposal considerations

### Disposal methods

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.

## Section 14. Transport information

	IMDG	IATA
UN number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

### Special precautions for user

Not available.


### Transport in bulk according to IMO instruments

Not available.



## Section 15. Regulatory information

### Regulation according to other foreign laws

<b>REACH Status</b>	For the REACH status of this product please consult your company contact, as identified in Section 1.
<b>Australia inventory (AIRC)</b>	All components are listed or exempted.
<b>Canada inventory status</b>	All components are listed or exempted.
<b>China inventory (IECSC)</b>	All components are listed or exempted.
<b>Japan inventory (CSCL)</b>	All components are listed or exempted.
<b>Korea inventory (KECI)</b>	All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	All components are listed or exempted.
<b>Taiwan Chemical Substances Inventory (TCSI)</b>	Not determined.
<b>United States inventory (TSCA 8b)</b>	 Not determined.

## Section 16. Other information

### History

<b>Date of issue/Date of revision</b>	08/01/2024.
<b>Date of previous issue</b>	22/03/2023.
<b>Prepared by</b>	Product Stewardship
<b>Key to abbreviations</b>	ACGIH = American Conference of Industrial Hygienists CAS Number = Chemical Abstracts Service Registry Number GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods OEL = Occupational Exposure Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] SDS = Safety Data Sheet STEL = Short term exposure limit TWA = Time weighted average UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods. Varies = may contain one or more of the following 64741-88-4, 64741-89-5, 64741-95-3, 64741-96-4, 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, 64742-65-0, 64742-70-7, 72623-85-9, 72623-86-0, 72623-87-1

 Indicates information that has changed from previously issued version.

### Notice to reader

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

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

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