

SAFETY DATA SHEET



Castrol Radicool Si-OAT Concentrate

Section 1. Identification

| | |
|--|--|
| GHS product identifier | Castrol Radicool Si-OAT Concentrate |
| Product code | 470312-AU33 |
| SDS no. | 470312 |
| Relevant identified uses of the substance or mixture and uses advised against | |
| Use of the substance/ mixture | Automotive coolant system (antifreeze/anticorrosion) concentrate. For specific application advice see appropriate Technical Data Sheet or consult our company representative. |
| Manufacturer Supplier | Castrol Australia Pty Ltd Level 17, 717 Bourke Street Docklands, Victoria 3008 ABN 87 008 459 407 www.castrol.com.au Tel: +61 (03) 9268 4111 |
| EMERGENCY TELEPHONE NUMBER | +61 2801 44558 (or 1800 14 14 74 within Australia) |
| OTHER PRODUCT INFORMATION | Technical Advice Helpline Number: 1300 557 998 |

Section 2. Hazard(s) identification

| | |
|---|--|
| Classification of the substance or mixture | ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (kidneys) - Category 2 |
|---|--|

GHS label elements

Hazard pictograms



Signal word

WARNING

Hazard statements

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

Precautionary statements

General

P103 - Read label before use.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

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.

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Section 2. Hazard(s) identification

Supplemental label elements Not applicable.

Other hazards which do not result in classification None known.

Section 3. Composition and ingredient information

Substance/mixture Mixture

Ethylene glycol; ethanediol. Inhibitors.

| Ingredient name | % (w/w) | CAS number |
|------------------------|----------------|-------------------|
| Ethylene glycol | ≥90 | 107-21-1 |

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 if symptoms occur.

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.

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.

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

Notes to physician

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

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.

Section 5. Firefighting measures

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.

Specific hazards arising from the chemical In a fire or if heated, a pressure increase will occur and the container may burst.

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Section 5. Firefighting measures

Hazardous thermal decomposition products

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

Special protective actions 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 spilled 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 spilled 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 spilled 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). 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.

Section 7. Handling and storage

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

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|--|
| Ethylene glycol | Safe Work Australia (Australia). Absorbed through skin. TWA: 10 mg/m ³ 8 hours. Issued/Revised: 8/2005 Form: Particulate STEL: 104 mg/m ³ 15 minutes. Issued/Revised: 8/2005 Form: Vapour TWA: 52 mg/m ³ 8 hours. Issued/Revised: 8/2005 Form: Vapour TWA: 20 ppm 8 hours. Issued/Revised: 8/2005 Form: Vapour STEL: 40 ppm 15 minutes. Issued/Revised: 8/2005 Form: Vapour |

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.

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/face protection

Safety glasses with side shields.

Skin protection

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Section 8. Exposure controls and 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 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.

Refer to standards:

Respiratory protection:AS/NZS 1715 and AS/NZS 1716
Gloves:AS/NZS 2161.1
Eye protection:AS/NZS 1336 and AS/NZS 1337

Section 9. 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 | <-18°C (<-0.4°F) |
| Boiling point | >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 |
| Lower and upper explosive (flammable) limits | Lower: 3.4% Upper: 15.1% |
| Vapour pressure | 0.02 kPa (0.15 mm Hg) [20°C (68°F)] |
| 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 | Miscible in water. |
| Partition coefficient: n-octanol/water | Not available. |
| Auto-ignition temperature | Not available. |

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Section 9. Physical and chemical properties

| | |
|----------------------------------|---|
| Decomposition temperature | Not available. |
| Viscosity | Kinematic: 20 to 30 mm ² /s (20 to 30 cSt) at 20°C |

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 all possible sources of ignition (spark or flame). |
| 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 | Oral | kidneys |

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

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. |
| 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. |

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Section 11. Toxicological information

| | |
|------------------------------|---|
| Teratogenicity | 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. |

Numerical measures of toxicity

Acute toxicity estimates

| | |
|--------------|------------------|
| Route | ATE value |
| Oral | 500.04 mg/kg |

Section 12. Ecological information

Persistence and degradability

Expected to be biodegradable.

Bioaccumulative potential

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

Mobility in soil

| | |
|--|--|
| Soil/water partition coefficient (K_{oc}) | Not available. |
| Mobility | Spillages may penetrate the soil causing ground water contamination. |

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.

Special Precautions for Landfill or Incineration No additional special precautions identified.

Section 14. Transport information

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

Special precautions for user Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

5

This product also contains approximately 10 ppm of bittering agent, denatonium benzoate.

Consumer products - This material is a scheduled poison and must be stored, maintained and used in accordance with the relevant regulations.

Industrial Products - Labelling requirements for SUSMP do not apply to a poison that is packed and sold solely for industrial, laboratory or manufacturing use. However, this product is labelled in accordance with NOSHC National Code of Practice for labelling of workplace substances.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Montreal Protocol (Annexes A, B, C, E)

| Ingredient name | List name | Status |
|-----------------|-----------|--------|
| Not listed. | | |

Stockholm Convention on Persistent Organic Pollutants

| Ingredient name | List name | Status |
|-----------------|-----------|--------|
| Not listed. | | |

Rotterdam Convention on Prior Informed Consent (PIC)

| Ingredient name | List name | Status |
|-----------------|-----------|--------|
| Not listed. | | |

International lists

National inventory

REACH Status

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

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.

| | | | | | | | |
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Section 15. Regulatory information

| | |
|--|--|
| Korea inventory (KECI) | All components are listed or exempted. |
| Philippines inventory (PICCS) | At least one component is not listed. |
| Taiwan Chemical Substances Inventory (TCSI) | At least one component is not listed. |
| United States inventory (TSCA 8b) | All components are active or exempted. |

Section 16. Any other relevant information

History

| | |
|---------------------------------------|--|
| Date of printing | 8/4/2020 |
| Date of issue/Date of revision | 8/4/2020 |
| Date of previous issue | No previous validation |
| Version | 1 |
| Prepared by | Product Stewardship |
| Key to abbreviations | ADG = Australian Dangerous Goods ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor 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) NOHSC = National Occupational Health and Safety Commission REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006] STEL = Short term exposure limit SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations TWA = Time weighted average VOC = Volatile Organic Compound SADT = Self-Accelerating Decomposition Temperature 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 |

Procedure used to derive the classification

| Classification | Justification |
|---|--|
| Acute Tox. 4, H302 STOT RE 2, H373 (kidneys) | Calculation method Calculation method |

✔ 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.

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Section 16. Any other relevant information

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.