


Castrol Radicool P-OAT

Section 1. Identification

| | |
|--|--|
| Product name | Castrol Radicool P-OAT |
| Product code | 470383-AU33 |
| SDS no. | 470383 |
| Use of the substance/mixture | Coolant and antifreeze. For specific application advice see appropriate Technical Data Sheet or consult our company representative. |
| Product type | Liquid. |
| Supplier | Castrol New Zealand Limited Level 2 - 105 Carlton Gore Road Newmarket Auckland, New Zealand www.castrol.com/nz Technical Helpline 0800 10 40 60 |
| Emergency telephone number | 0800 243643 (0800 CHEMHELP) (NZ use only) |
| New Zealand National Poisons Centre | 0800 764 766 National Poison Centre |




Section 2. Hazards identification

HSNO Classification  ACUTE TOXICITY (oral) - Category 4
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

This material is not classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

GHS label elements

| | |
|---------------------------------|--|
| Signal word | Warning |
| Hazard statements |  Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure. (kidneys) |
| Precautionary statements | |
| Prevention |  Do not breathe vapour. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. |
| Response |  IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. |
| Storage | Not applicable. |
| Disposal | Dispose of contents and container in accordance with all local, regional, national and international regulations. |

Symbol

Other hazards which do not result in classification  None known.

Section 3. Composition/information on ingredients

Substance/mixture

Mixture

Ethylene glycol; ethanediol Proprietary performance additives.

| 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

Inhalation

☑ 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. If skin irritation or rash occurs: Get medical advice/attention.

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.

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

Notes to 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

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 combustion products

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

Hazchem code

Not available.

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

☑ 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".

Section 6. Accidental release measures

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

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.

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/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|--|
| Ethylene glycol | HSWA 2015 - HSW (GRWM) 2016. Workplace exposure standards (WES) (New Zealand). WES-Ceiling: 50 ppm Issued/Revised: 9/2010 Form: Vapour and mists WES-Ceiling: 127 mg/m ³ Issued/Revised: 9/2010 Form: Vapour and mists |

Biological 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.

Section 8. Exposure controls/personal protection

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 protection

Safety glasses with side shields.

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/manufacture and with a full assessment of the working conditions.

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/manufacture 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

Mild

pH

8.3

Melting point/freezing point

-18°C (-0.4°F)

Boiling point, initial boiling point, and boiling range

173°C (343.4°F)

Drop Point

Not available.

Flash point

Closed cup: 122°C (251.6°F) [Pensky-Martens]

Auto-ignition temperature

Section 9. Physical and chemical properties

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

Flammability

Not available.

Vapour pressure

| Ingredient name | Vapour Pressure at 20°C | | | Vapour pressure at 50°C | | |
|-----------------|-------------------------|-------|--------|-------------------------|-----|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| Ethylene glycol | 0.09226 | 0.012 | | | | |

Relative vapour density

Not available.

Density

1119 kg/m³ (1.119 g/cm³) at 20°C

Solubility(ies)

| Media | Result |
|-------|--------------------|
| water | Miscible in water. |

Particle characteristics

Median particle size

Not applicable.

Section 10. Stability and reactivity

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 likely routes of exposure

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.

Potential chronic health effects

General

May cause damage to organs through prolonged or repeated exposure. (kidney)

Inhalation

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

Ingestion

Not applicable.

Skin contact

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

Eye contact

No known significant effects or critical hazards.

Product name Castrol Radicool P-OAT

Product code 470383-AU33

Page: 5/7

Version 2.01 Date of issue 1 November 2024

Format New Zealand

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(ENGLISH)

Section 11. Toxicological information

| | |
|------------------------------|---|
| Carcinogenicity | No known significant effects or critical hazards. |
| Mutagenicity | No known significant effects or critical hazards. |
| 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 | 515.26 mg/kg |

Section 12. Ecological information

Ecotoxicity 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.

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Ethylene glycol | -1.36 | - | Low |

Mobility in soil

Mobility Spillages may penetrate the soil causing ground water contamination.

Soil/water partition coefficient (K_{oc}) Not available.

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

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|--------------------------|----------------|----------------------|---------|-----|-------|------------------------|
| New Zealand Class | Not regulated. | - | - | - | | - |
| ADG Class | Not regulated. | - | - | - | | - |
| IATA Class | Not regulated. | - | - | - | | - |
| | | | | | | |

Product name Castrol Radicool P-OAT

Product code 470383-AU33

Page: 6/7

Version 2.01 **Date of issue** 1 November 2024

Format New Zealand

Language ENGLISH

(ENGLISH)


Section 14. Transport information

| | | | | | |
|-------------------|----------------|---|---|---|---|
| IMDG Class | Not regulated. | - | - | - | - |
|-------------------|----------------|---|---|---|---|

PG* : Packing group

Section 15. Regulatory information

New Zealand Regulatory Information

| | |
|-----------------------------|---|
| HSNO Approval Number | HSR002606 |
| HSNO Group Standard | Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2020 |
| HSNO Classification |  ACUTE TOXICITY (oral) - Category 4 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |

Regulation according to other foreign laws

| | |
|--|---|
| REACH Status | For the REACH status of this product please consult your company contact, as identified in Section 1. |
| United States inventory (TSCA 8b) | Not determined. |
| Australia inventory (AIC) | All components are listed or exempted. |
| Canada inventory status | All components are listed or exempted. |
| China inventory (IECSC) | All components are listed or exempted. |
| Japan inventory (CSCL) | All components are listed or exempted. |
| Korea inventory (KECI) | All components are listed or exempted. |
| Philippines inventory (PICCS) | At least one component is not listed. |
| Taiwan Chemical Substances Inventory (TCSI) | All components are listed or exempted. |

Section 16. Other information

History

| | |
|---------------------------------------|--|
| Date of issue/Date of revision | 1 November 2024 |
| Date of previous issue | 18 August 2023. |
| Version | 2.01 |
| Prepared by | Not available. |
| Key to abbreviations | 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 |

Notice to reader

 Indicates information that has changed from previously issued version.

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.

Product name Castrol Radicool P-OAT

Product code 470383-AU33

Page: 7/7

Version 2.01 **Date of issue** 1 November 2024

Format New Zealand

Language ENGLISH

(ENGLISH)