resource management synergy

TOTAL CONTRACTING SERVICES

# POLLUTION INCDIENT RESPONSE MANAGEMENT PLAN

# TREATMENT OF WATER TO REMOVE PFAS
# TESTSAFE AUSTRALIA

# SAFEWORK NSW

**Contract No.** SAFE/31708
**Document Revision Number:** 0
**Document Revision Date:** 13/08/2025
(Controlled Copy)

## Contents



## Appendix

## 1 - Documentation, Data Control & Records Management

The Synergy *Pollution Incident Response Management Plan* (PIRMP) will be maintained as a 'working document' for the duration of the Works on the Site.

Synergy will:

- Maintain an up to date printed version of the PIRMP on the Site;
- Induct site personnel into the relevant requirements of the PIRMP;
- Provide a copy of the current version of the PIRMP to the client project representative; and
- Make certain parts of the PIRMP available on the Synergy website.

The following revision status record shall be maintained to identify the current revision status of the PIRMP.

| Revision Number | Revision Date | Prepared By | | Reviewed & Approved By | |
|---|---|---|---|---|---|
| | | Name | Position | Name | Position |
| 0 | 13/08/2025 | Ian Warren | Synergy – EHSQ Manager | Jeremy Tosswill | Synergy – Water Services Manager |
| | | | | | |
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| | | | | | |

# 2 – Summary Information

## 2.1 – Introduction

Synergy Resource Management Pty Ltd (Synergy) have been engaged by SafeWork NSW to supply and operate a Mobile Water Treatment Plant (Mobile WTP) to manage and treat two catchment ponds contaminated with per- and poly-fluorinated alkyl substances (PFAS) generated during the historical testing activities.

## 2.2 – Objectives

Because the works are being performed under Synergy's *NSW EPA Environment Protection Licence 21225* the licensee is required to prepare and implement a PIRMP in accordance with Section 153A of the *Protection of the Environment Operations Act 1997* (the POEO Act), *Protection of the Environment Operations (General) Regulation 2009* (the General Regulation) and the *EPA Guideline - Pollution Incident Response Management Plans* (the EPA PIRMP Guidelines) to:

- Minimise the risk of a pollution incident occurring as a result of the licensed activities;
- Establish clear and effective notification, action and communication procedures to ensure the correct people are notified, warned and quickly provided with updates and information they may need to act appropriately, including:
    - people who may need to be involved in incident responses – including staff at the premises; the EPA; and other relevant authorities (such as Fire and Rescue NSW, NSW Health and local councils); and
    - industrial, commercial and residential neighbours and other members of the community.
- Have properly trained staff and up-to-date incident management information available to ensure the potential impact of a pollution incident is minimised.

## 2.3 – Legislative Requirements

Part 5.7A of the POEO Act requires all licensees to prepare, keep, test and implement a PIRMP. Part 3A of the General Regulation sets out the specific information a licensee must include in their PIRMP. In summary, the requirements are that the:

- Licensee must prepare a PIRMP (Section 153A);
- PIRMP must be in the form required by the regulations and must include the information detailed in the POEO Act (Section 153C) and the General Regulation (Clause 98C); and
- Licensee must keep the PIRMP at the premises the environment protection licence relates to, or where the relevant activity takes place (Section 153D), in the case of trackable waste transporters and mobile plant, and make certain parts of the PIRMP available on a publicly accessible website of the licensee, or alternatively provide a copy upon written request (|Clause 98D);
- Licensee must test their PIRMP in accordance with the regulations (Section 153E and Clause 98E); and
- Licensee must implement their PIRMP immediately if a pollution incident occurs that causes or threatens material harm to the environment (as defined in Section 147) (Section 153F).

## 2.4 – Pollution Incident Definition

The POEO Act Dictionary stipulates that a "Pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur.

It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise".

## 2.5 – Pollution Incident Notification

A pollution incident notification is required if a pollution incident causes or threatens to cause 'material harm to the environment'. Material harm is defined in Section 147 of the POEO Act as:

- Harm to the environment is material if:
  - It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
  - It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and
- Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Notification is required even where 'harm to the environment is caused only in the premises where the pollution incident occurs', as specified in Section 147(2).

## 2.6 – Implementation

The PIRMP is applicable to all Synergy employees, subcontractor personnel and visitors to the Synergy Mobile WTP at the Site.

The POEO Act requires licensees to:

- Implement the PIRMP if, in the course of an activity, a pollution incident occurs that causes or threatens to cause material harm (as defined in Box 1.3); and
- Notify any 'material harm' pollution incidents, in accordance with the requirements set out in the Act.

Synergy shall provide training in the project specific *PIRMP* to workers, subcontractor personnel and visitors to the Site during the site induction process.

## 3 - Project Information

### 3.1 – Client Details

Organisation: SafeWork NSW Department of Customer Service
Address: 919 Londonderry Rd, Londonderry NSW 2753

Contact: Chris Bourke
Position: Director Testing Services Regulatory Capability and Harm Prevention SafeWork NSW
Phone: 0434 562 565
Email: chris.bourke@safework.nsw.gov.au

Contact: David Farmer
Position: Facilities Coordinator, Facilities Management Workplace Services People and Culture
Phone: 0408 595 081
Email: david.farmer@customerservice.nsw.gov.au

### 3.2 – Principal Contractor Details

Organisation: Synergy Resource Management
Address: 1/2 Forge Place Narellan, NSW 2567

Contact: Jeremy Tosswill
Position: Manager – Water Services
Phone: 0438 436 638
Email: Jeremy.tosswill@synergyresource.com

Contact: Robert Tosswill
Position: Operations Manager
Phone: 0488 111 584
Email: Robert.tosswill@synergyresource.com

### 3.3 – Background

TestSafe Australia is an internationally recognised testing, certification, research and investigation facility. It is the largest of its kind in the Southern Hemisphere and is one of a small number of such facilities worldwide offering benchmarked testing and certification services to a wide range of industries. Historically a fluorine-based foam (containing per- and poly-fluorinated alkyl substances (PFAS) was used onsite with runoff collecting in two purpose built catchment ponds. PFAS pose an environmental and health risk due to the persistence, mobility, bioaccumulation and toxicity potential they possess. TestSafe engage suitable qualified and experienced contractors that hold a NSW EPA issued mobile treatment license to undertake treatment of these ponds to manage water levels as required.

### 3.4 – Location of Works

The Site is located at 919 Londonderry Rd, Londonderry NSW 2753. The Works are specifically located in the Northwestern corner of the site as identified on the Site and WTP Location Plan.

Refer to Appendix 1 – Site & WTP Location Plan.

## 4 - Responsibilities & Accountabilities

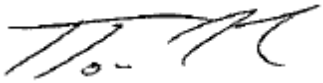
### 4.1 - EHSQ Managers Responsibilities & Accountabilities

- Develop the *PIRMP* specific to the Works on the Site in consultation with project stakeholders;
- Test the *PIRMP* to maintain its accuracy / adequacy, evaluate implementation, and identify areas of underperformance so corrective actions can be taken to strengthen safeguards or improve outcomes; and
- Review the *PIRMP* following an emergency incident to evaluate its accuracy / adequacy, evaluate implementation, and identify areas of underperformance for corrective action.

Ian Warren - EHSQ Manager

### 4.2 – Project Managers Responsibilities & Accountabilities

- Ensure that Synergy workers, subcontractor personnel and visitors are trained in the relevant requirements of the *PIRMP*;
- Ensure that adequate incident response equipment is provided, maintained and kept readily accessible;
- Test the *PIRMP* to maintain its accuracy / adequacy, evaluate implementation, and identify areas of underperformance so corrective actions can be taken to strengthen safeguards or improve outcomes;
- Implement the requirements of the *PIRMP* in response to an environmental incident;
- Assist the EHSQ Manager to review the *PIRMP* following an emergency event to evaluate its accuracy / adequacy, evaluate implementation, and identify areas of underperformance for corrective action.



Jeremy Tosswill
Project Manager

### 4.3 – Worker, Subcontractor Personnel & Visitors Responsibilities & Accountabilities

- Undertake training in the relevant requirements of the *PIRMP*;
- Ensure that emergency response equipment is not tampered with and kept readily accessible;
- Immediately notify the Project Manager if emergency response equipment is utilised, tampered with and / or considered unfit fit for purpose;
- Immediately notify the Project Manager of all environmental incidents; and
- Implement the requirements of the *PIRMP* in response to an environmental incident.

# 5 – Hazards to Human Health & the Environment

## 5.1 - Hazard Identification & Risk Management

The hazards to human health and the environment associated with the Synergy Mobile WTP during the Works on the Site have been identified on the Synergy *Mobile WTP Operation & Maintenance Environmental & Safe Work Method Statement* (ESWMS).

Refer to Appendix 2 - Mobile WTP Operation & Maintenance ESWMS.

The ESWMS incorporates a risk / impact assessment to compare the likelihood and severity of the hazards to human health and the environment. The ESWMS also details the control measures required to eliminate hazards to human health and the environment and / or reducing the associated impacts to acceptable levels where it is not reasonably practical to eliminate them.

## 5.2 - Chemicals & Potential Pollutants

Synergy shall utilise materials that are classified as non-hazardous substances and non-dangerous goods where suitable. All chemicals and potential pollutants stored, handled and / or used on the Site to facilitate the Mobile WTP operation are recorded on the Synergy *Chemical Register.*

Refer to Appendix 3 - Chemical Register.

Synergy shall ensure that a current *Safety Data Sheet* (SDS) is provided on the Site and kept readily available for all materials recorded on the Chemical Register. The issue date on the SDS must not be more than 5 years old for it to be deemed current.

# 6 – Incident Preparedness & Response

## 6.1 – Training for Incident Preparedness & Response

Synergy shall provide training in the project specific *PIRMP* to workers, subcontractor personnel and visitors to the Site during the site induction process.

## 6.2 – Emergency Response Contacts

| Emergency Contact Numbers: | | | |
|---|---|---|---|
| **Name:** | **Company:** | **Position:** | **Phone Number:** |
| Chris Bourke | SafeWork NSW | Principal's Representative | 0434 562 565 |
| David Farmer | SafeWork NSW | Principal's Representative | 0408 595 081 |
| Alastair Nicol | Synergy | General Manager | 0439 502 381 |
| Jeremy Tosswill | Synergy | Project Manager | 0438 436 638 |
| Anu Ramaiah | Synergy | Project Supervisor | 0482 835 373 |
| Ian Warren | Synergy | EHSQ Manager | 0417 859 608 |
| Myra Lee | Synergy | EHSQ Coordinator | 0434 516 017 |
| NSW Environmental Protection Authority | | | 131 555 |
| SafeWork NSW | | | 131 050 |
| Poisons Information Centre | | | 131 126 |

## 6.3 – Emergency Response Equipment

Synergy shall ensure that the following emergency response equipment is supplied, serviced and maintained in good working order, and remains easily accessible.

| Details of Emergency Response Equipment: | | |
|---|---|---|
| **First aid kit**: 1 x Type B Construction Kit | **Location:** | Synergy WTP |
| **Fire Extinguishers:** 2 x 9kg A:B:E Dry Powder | **Locations:** | Synergy WTP |
| **Spill kit:** 1 x Multi-Purpose | **Location:** | Synergy WTP |

## 6.4 – Emergency Response Procedures

| Emergency Response Procedures: | |
|---|---|
| Flood event | • Worker / s discovering event to raise the alarm;<br>• Project Supervisor to notify the SafeWork NSW project representatives;<br>• Relocate vehicles, plant and equipment to high ground where it will not be inundated;<br>• Relocate hazardous substances and dangerous goods to high ground where they will not be inundated if safe to do so;<br>• Inspect erosion and sediment controls to ensure they are functioning correctly;<br>• Warn local businesses / residents if they are at risk;<br>• Evacuate the site. |
| Bushfire | • Worker / s discovering event to raise the alarm;<br>• Project Supervisor to dial 000 and notify emergency services;<br>• Project Supervisor to notify the SafeWork NSW project representatives;<br>• Relocate vehicles, plant and equipment to the most appropriate and safe location within the site (on bare ground away from trees / vegetation) away from the bushfire hazard if safe to do so;<br>• Relocate hazardous substances and dangerous goods to the most appropriate and safe location within the site (on bare ground away from trees / vegetation) away from the bushfire hazard if safe to do so;<br>• Worker / s to attempt to extinguish fire if safe to do so;<br>• Evacuate to emergency assembly point;<br>• Warn local businesses / residents if they are at risk;<br>• Worker designated to wait at site entrance at main road to guide emergency services to area;<br>• Follow instructions from emergency services personnel. |
| Pollution event | • Worker / s discovering event to raise the alarm;<br>• Project Supervisor to notify the SafeWork NSW project representatives;<br>• Follow all guidelines contained in Safety Data Sheet for the handling and containment of the substance in question (where applicable);<br>• Stop the source of the spill / leak if safe to do so;<br>• Check that the bund around the work area and the sealed drainage inlets are containing the substance<br>• Utilise additional sandbags and / or spill kit to contain the substance as required;<br>• Deploy spill kit to absorb the substance;<br>• Warn local businesses / residents if they are at risk;<br>• Shovel spent spill kit material into plastic receptacle;<br>• Dispose of spent spill kit materials at a suitably licensed waste facility. |
| Fire or explosion | • Worker / s discovering event to raise the alarm;<br>• Project Supervisor to dial 000 and notify emergency services if required;<br>• Project Supervisor to notify the SafeWork NSW project representatives;<br>• Worker / s to turn-off / shut-down & make safe plant & equipment if safe to do so;<br>• Worker / s to attempt to extinguish fire if safe to do so;<br>• All non-essential personnel to evacuate to emergency assembly point;<br>• Warn local businesses / residents if they are at risk;<br>• Worker designated to wait at site entrance at main road to guide emergency services to area;<br>• Follow instructions from emergency services personnel. |

## 6.5 – Emergency Assembly Point

**Emergency Assembly Point Location Map:**

The Emergency Assembly Point is located to the South of the WTP as indicated on the plan below:


## 6.6 – PIRMP Testing

Synergy shall test the PIRMP at least once every 12 months (so there is less than 12 months between each test of the PIRMP). It is preferable that the PIRMP is tested within the first 3 months of the Mobile WTP operation to ensure that the information is accurate and allow areas of underperformance to be identified, so corrective actions can be taken to strengthen safeguards or improve outcomes. Testing of the PIRMP shall involve a desktop exercise and / or practical scenario with the details recorded on the PIRMP Testing Record.

Refer to Appendix 4 – PIRMP Testing Record.

In addition to scheduled testing, the PIRMP shall be tested within one month of a pollution incident that occurs while the licensed activity is taking place.

## 7 – Pollution Incident Reporting

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in Section 147 of the POEO Act as:

- It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and
- Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Part 5.7 of the POEO Act specifies when and how a person should notify each relevant authority about a pollution incident, and who is responsible for the notification. It also prescribes what relevant information must be given. In summary, the licensee (or another person) is required to report a pollution incident immediately to:

- The NSW EPA;
- The Ministry of Health (via the appropriate Local Health District Public Health Unit);
- Fire and Rescue NSW;
- SafeWork NSW; and
- the relevant local council.

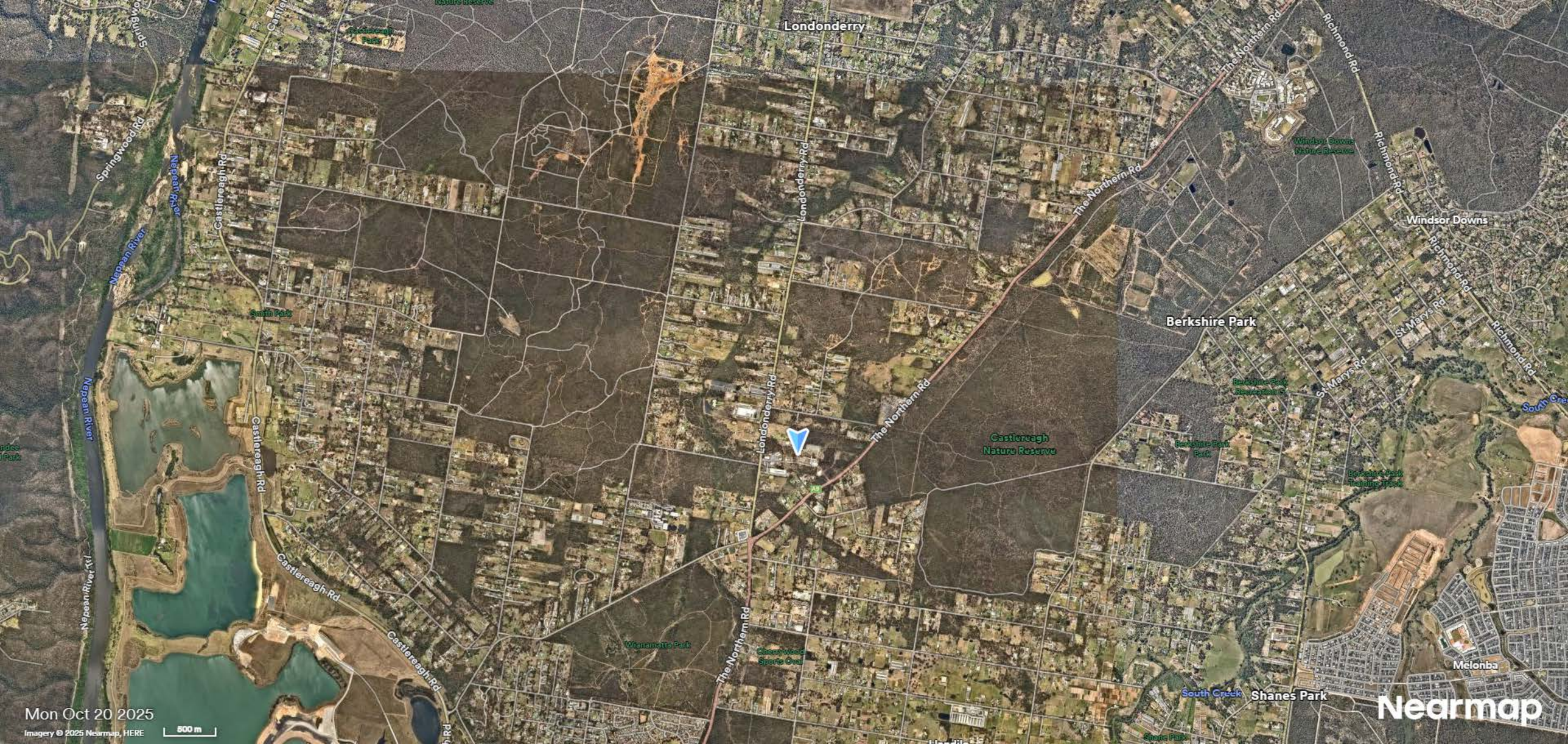
Synergy shall also immediately notify the SafeWork NSW project representatives of all pollution incidents.

The dictionary meaning of immediately is promptly and without delay. This allows response agencies to know as soon as a pollution incident is identified, so it can be dealt with quickly.

The following details shall be provided when notifying the relevant parties of a pollution incident:

- Time, date, nature, duration and location of incident;
- The location where the pollution has or is likely to occur;
- The nature, estimated quantity or volume and concentration of any pollutants;
- The circumstances in which the incident occurred; and
- The action taken or proposed to deal with the incident and any resulting pollution or threatened pollution

# Appendix 1 – Site & WTP Location Plan


Londonderry
Springwood Rd
Nepean River
Castlereagh Rd
Londonderry Rd
The Northern Rd
Richmond Rd
Windsor Downs
Windsor Downs Nature Reserve
Berkshire Park
St Marys Rd
Castlereagh Nature Reserve
Berkshire Park Recreation Reserve
Berkshire Park Park
Berkshire Park Training Track
South Creek
Shanes Park
Melonba
Wianamatta Park
Cherrywood Sports Oval
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# Appendix 2 – Mobile WTP Operation & Maintenance ESWMS

# ESWMS53 Water Treatment Plant Operation

**Zara Bedford**
Created Fri, 01 Aug 2025, 9:02 AM (UTC+10)

| Project Name: | Project Address: | Principal Representative: |
|---|---|---|
| SRM493 - SafeWork NSW, TestSafe Londonderry WTP | 919 Londonderry Road, Londonderry. NSW 2753 | SafeWork NSW |

| Task / Activity: | Revision: | Date: | Prepared By: | Name & Position: | Signature: |
|---|---|---|---|---|---|
| Water Treatment Plant (WTP) Operation | 0 | 01/08/25 | Synergy Resource Management<br>1/2 Forge Place, Narellan. NSW 2567<br>ABN: 57 120 757 299 | Ian Warren – EHSQ Manager |  |

| ESWMS Implemented & Compliance Maintained By: | Supervisor Competency: | Workers Consulted: | Reviewed By: |
|---|---|---|---|
| Anu Ramaiah - Synergy Water Treatment Specialist | 4 Years Water Treatment Project Supervisory Experience | Cole Leighton | Jeremy Tosswill |

| Compliance Obligations: | Work Permit / Licences Required: | Worker Licences / Qualifications / Training / Competencies Required: | Subcontracted Works: |
|---|---|---|---|
| NSW Work Health & Safety Act 2011, NSW Work Health & Safety Regulation 2017, Managing Risks of Plant COP 2019, Hazardous Manual Tasks COP 2019, Managing Electrical Risks in the Workplace COP 2019, Managing the Risks of Hazardous Chemicals COP 2019 | N/A | WTP operators to be trained & competent. Site personnel must have completed OHS Induction for Construction, Site induction, WTP induction, relevant ESWMS, & pre-start meeting prior to commencing works | N/A |

**High Risk Work Activities:**

Chemical Fuel or Refrigerant Lines | Confined Space | Contaminated or Flammable Atmospheres

**PPE Required:**

Coveralls | Ear Protection | Eye Protection | Hand Protection | Hard Hat | Long Pants & Long Shirt | High Vis (Shirt / Jacket / Vest) | Safety Footwear

| Plant / Equipment Required: | Plant / Equipment Checks Required: | Hazardous Substances / Dangerous Goods Required: | Risk Assessment & Safety Data Sheet Available: |
|---|---|---|---|
| WTP & associated infrastructure | WTP checks completed daily during operation | Refer to Chemical Register | Yes |

**Risk Matrix:** The Risk Matrix below is used to assess the probability and the severity of a safety hazard / environmental aspect, resulting in a priority rating being assigned on the basis of risk / impact.
Risk / Impact Ratings are as follows: 1 – 6 = Extreme, 7 – 11 = High, 12 - 17 = Medium & 18 - 25 = Low.

| Severity \ Probability | A | B | C | D | E |
|---|---|---|---|---|---|
| V | 1 | 3 | 6 | 10 | 15 |
| W | 2 | 5 | 9 | 14 | 19 |
| X | 4 | 8 | 11 | 17 | 22 |
| Y | 7 | 13 | 16 | 21 | 24 |
| Z | 12 | 18 | 20 | 23 | 25 |

| Probability | Severity | |
|---|---|---|
| | For People | For Environment |
| A = Almost Certain (Expected in most circumstances) | V = Severe (Death or permanent disability) | V = Severe (Permanent impact) |
| B = Likely (Probably occur in most circumstances) | W = Major (Hospital admission required) | W = Major (Long term impact) |
| C = Possible (Could occur sometime) | X = Moderate (Medical Treatment Required) | X = Moderate (Medium term impact) |
| D = Unlikely (Not likely to occur in normal circumstances) | Y = Minor (First aid treatment required) | Y = Minor (Short term impact) |
| E = Rare (May occur in exceptional circumstances) | Z = Insignificant (No injury) | Z = Insignificant (No impact) |

**Notes:** ESWMS are communicated to workers during the Synergy site induction process. Regular inspections are to be performed to confirm that the work activities reflect the prescribed controls. If an inaccuracy is identified with the ESWMS the document shall be amended, in consultation with the workers, with all personnel re-trained in the revised requirements during a Toolbox Talk Meeting.

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| Water Treatment Plant operation | Incorrect infrastructure installation | Infrastructure installed incorrectly or in unsafe condition | 6 | • Electrical Commissioning ITP to be completed before WTP operation<br>• Hydraulic Commissioning ITP to be completed before WTP operation<br>• Perform WTP commissioning period<br>• WTP Check Sheet completed daily during operation | SRM Project Supervisor | 15 |
| | Contaminated water and sludge | Adverse health effects | 6 | • Potential contaminants of concern on the site (PFAS) to be communicated to workers during site induction process, and the potential exposure pathways and the necessary control measures required to prevent / minimise exposure | SRM Project Supervisor | 15 |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | | | Implement the following control measures to minimise exposure to potential contaminants of concern:<br>• Wash hands well with clean water and soap before you eat, drink, smoke going to the toilet and at the end of the work shift<br>• Keep your fingernails short and use a stiff soapy brush to clean under your nails<br>• Wear impermeable task specific gloves when performing tasks with the potential for exposure to contaminated soils and / or water<br>• Gloves to be worn when working at all times<br>• Always wear the PPE specified in the ESWMS<br>• Soiled workwear should be replaced as soon as practicable Open wounds must be covered with waterproof dressing | Individual Workers | |
| | | Leaks or overflows contaminating clean areas and / or polluting the stormwater system / local waterway | 9 | • WTP operations to be performed by experienced technicians<br>• Perform Water Treatment Plant commissioning period<br>• Float switches used on pumps to prevent tanks from overflowing<br>• Complete regular checks of the WTP & infrastructure during periods of operation | SRM Project Supervisor | 19 |
| | | | | • Immediately turn off the WTP if a leak or potential damage / defects are identified<br>• Keep suitable spill kit readily available for deployment<br>• Repair the cause of the leak and / or malfunctioning infrastructure before resuming WTP operation | Individual Workers | |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | Operating plant | Operator error, plant failure or in unsafe condition for use | 14 | • Persons performing WTP operation & maintenance to be trained & competent<br>• WTP Check Sheet completed daily during operation<br>• Electrical plant & equipment to be tested & tagged<br>• All plant & equipment operated & maintained as per manufacturers guidelines<br>• All repairs & maintenance to be completed by a competent person | SRM Project Supervisor | 19 |
| | | | | • Operators to be familiarise themselves with the manufacturer's operating & maintenance instructions prior to operation<br>• Only perform activities in which you are trained & competent<br>• Immediately notify the SRM Project Supervisor of defective items<br>• Defective components, plant & equipment to be tagged 'Out of Service' to prevent inadvertent use | Individual Workers | |
| | Falling from ladder when undertaking elevated inspection activities (Weir box, water storage tank etc.) | Musculoskeletal injury | 14 | • Only industrial rated platform ladders permitted for use<br>• Platform ladder must have back bar for works over 1.9m | SRM Project Supervisor | 19 |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | | | • Ensure platform ladder is suitable for the task & in good working condition<br>• Ensure platform ladder is fitted with rubber (or similar non-slip material) feet<br>• Ensure platform ladder has a secure footing<br>• Maintain 3 points of contact while ascending / descending the platform ladder<br>• Secure ladder back bar in position at all times when standing on the platform (where provided)<br>• Do not overreach from the side of the platform ladder<br>• Do not climb above or off the platform unless descending via the steps<br>• Keep the platform ladder rungs & work boots free from mud | Individual Workers | |
| | Falling objects when performing elevated works | Laceration, abrasion & /or contusion | 21 | • Create physical exclusion zone to prevent personnel accessing the area below the ladder<br>• Tools, equipment & materials to be minimised when working up the ladder<br>• Use lanyards to secure tools from falling<br>• Use container to secure loose items / materials<br>• Regularly remove waste to ground level | Individual workers | 24 |
| | Confined space | Asphyxiation or drowning | 6 | • Warning signs / labels installed to identify confined space hazards | SRM Project Supervisor | 15 |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | | | • Entry into confined spaces, such as water storage tanks or filters etc. should not be required during normal operations. Consult SRM Project Supervisor if confined space entry is required<br>• Entry into confined spaces is not permitted without task specific ESWMS, detailed rescue plan, suitably trained workers, calibrated air monitor & a Confined Space Entry Permit | Individual Workers | |
| | High pressure build-up | Uncontrolled infrastructure rupture / pressure discharge | 9 | • WTP Check Sheet completed daily during operation<br>• Pressure switches fitted to dewatering pumps so that they automatically shut down to prevent high pressure build-up<br>• WTP infrastructure fitted with pressure relief valves & overflows<br>• WTP infrastructure fitted with pressure gauges<br>• Emergency stop buttons fitted to dewatering pumps / generators | SRM Project Supervisor | 19 |
| | Vapours / emissions | Air pollution & nuisance odours | 8 | • All filters / water storage tanks are to be sealed with covers in place when access is not required | SRM Project Supervisor | 22 |
| | Hazardous Substances & Dangerous Goods | Hazardous reaction from incompatible Dangerous Goods | 6 | • Transportation, handling & storage of reagents shall be undertaken in accordance with the applicable Standards & the suppliers Safety Data Sheet<br>• Incompatible reagents not to be stored in the same chemical storage containers | SRM Project Supervisor | 15 |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | Leaks or overflows contaminating clean areas and / or polluting the stormwater system / local waterway | 6 | • Minimise quantities of chemicals / reagents stored on site | SRM Project Supervisor | 15 |
| | | | | • Store chemicals / reagents in designated chemical storage containers<br>• Chemical storage containers to have bunded floor<br>• Ensure chemical storage containers are clearly labelled<br>• Ensure SDS for chemicals are readily available<br>• Maintain suitable spill kit in vicinity of chemical / reagent handling & storage locations | Individual Workers | |
| | Hazardous Substances & Dangerous Goods | Inhalation, ingestion or dermal absorption of Hazardous Substance | 6 | • Transportation, handling & storage of reagents shall be undertaken in accordance with the applicable Standards & the suppliers Safety Data Sheet<br>• Persons involved in the transportation, handling & storage of reagents to be trained & competent | SRM Project Supervisor | 15 |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | | | • Store chemicals / reagents in designated chemical storage containers<br>• Keep containers closed when not in use<br>• Ensure that all storage containers are clearly labelled<br>• Regularly check containers, valves & pipework for leaks<br>• Ensure SDS for product is readily available<br>• Emergency shower & eye wash station installed & maintained<br>• Wear correct PPE when performing activities with the potential for exposure to Hazardous Substances (Tyvek coveralls, chemical resistant safety gum boots, long nitrile gloves & chemical face shield)<br>• Wear respirator with multi-gas filter when working in unventilated areas & during tasks with potential exposure to hazardous vapours, sprays & / or mists<br>• Immediately remove & replace contaminated clothing<br>• Wash thoroughly before eating, drinking, smoking or going to the toilet etc.<br>• Wash hands thoroughly at the end of activities | Individual Workers | |

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | Non-compliance with water quality objectives | Exceedance of water quality discharge objectives | 11 | • WTP operators to be trained & competent<br>• Operators to be trained in the discharge water quality limits prior to operation<br>• Operate the WTP as required to ensure that the recovered water is being treated sufficiently to meet the criteria prior to discharge<br>• Perform ongoing sampling activities to confirm water quality remains within compliance limits<br>• Stop the discharge of treated water immediately if faults with the WTP are identified<br>• Stop the discharge of treated water immediately if the discharge water quality limits are exceeded | SRM Project Supervisor | 22 |
| Conduct water quality sampling & testing | Non-compliance with QA / QC procedures during sampling & testing operations | Inaccurate water quality results | 9 | • Persons collecting water samples to be appropriately trained & competent<br>• Complete the Chain of Custody Documentation for each sample / delivery<br>• Send samples to NATA accredited facility for analysis<br>• Report on the laboratory sample results & their analysis to be provided to the Principal | SRM Project Manager | 19 |

**Dynamic Hazard / Aspect Identification & Risk / Impact Assessment:**

| Activity / Job Steps: | Hazards / Aspects Identified: | Associated Risks / Impacts: | Risk / Impact Rating: | Control Measures (Eliminate, Substitute, Isolate, Engineer, Administrate, PPE): | Responsible Person: | Residual Risk / Impact Rating |
|---|---|---|---|---|---|---|
| | | | | | | |

**ESWMS Review & Revision:**

Synergy shall review this ESWMS, in consultation with workers undertaking the activities concerned, under the following circumstances:

- Synergy shall review this ESWMS, in consultation with workers undertaking the activities concerned, under the following circumstances;
- When deficiencies are identified during the completion of the ESWMS Review Report;
- When there has been failure in the control measures resulting in an injury, illness, near miss or environmental incident;
- Following a previously unidentified hazard / aspect being identified during a pre-start meeting, toolbox talk, site safety inspections; audit or hazard / aspect reporting process;
- Following a previously unidentified hazard / aspect being identified through relevant industry material, regulator advice, or interested party information;
- Following new products, services and processes or changes to existing products, services, and processes, including:
    - Workplace locations and surroundings;
    - Work organisation;
    - Working conditions;
    - Tools, plant, equipment, products and / or materials;
    - Workforce;
    - Scope of works or intended work methods;
- Following changes to applicable compliance obligations and other requirements;
- Following changes in knowledge and / or information regarding hazards / aspects and risks / impacts;
- Developments in knowledge and / or technology; and
- Following changes to the company policy statements.

**Record of Review & Revision:**

| Date: | Completed By: | Signature: | Authorised By (PCBU Representative): | Signature: | Description of Amendments: (List New Revision Number / Date If Applicable): |
|---|---|---|---|---|---|
| | | | | | |

**ESWMS Sign-Off:**

**I acknowledge that the relevant aspects of the ESWMS's have been explained to me and that the requirements are understood, by providing my signature below.**

**Scan Sitemate ID**

| Name | Company | Signature | Date | Time | Latitude | Longitude |
|---|---|---|---|---|---|---|
| There are no signatures to display yet for this field. | | | | | | |

**Signature:** Not signed yet.

# Appendix 3 – Chemical Register

# SYN16 Chemical Register

**Zara Bedford**
Created Thu, 31 Jul 2025, 2:20 PM (UTC+10)

| Product Name: | Application: | Quantity: | Product Labelled: | Hazardous Substance: | Dangerous Goods: | SDS Provided: | SDS Expiry: |
|---|---|---|---|---|---|---|---|
| Unleaded Petrol | Fuel for plant | 80L | Yes | Yes | Yes | 1 Unleaded Petrol SDS (Exp. May 2026).pdf | 26 May 2026 |
| Diesel Fuel | Fuel for plant | 100L | Yes | Yes | Yes | 2 Diesel Fuel SDS (Exp. May 2026).pdf | 25 Jun 2026 |
| Hydraulic Oil | Oil for use in hydraulic systems | 80L | Yes | Yes | N/A | 3 Hydraulic Oil SDS (Exp. Dec 2027).pdf | 23 Dec 2027 |
| Aluminium Chlorohydrate Solution (ACH) | Coagulant | 80L | Yes | Yes | N/A | 4. Aluminium Chlorohydrate Solution. Expiry April 2029.pdf | 16 Apr 2029 |
| Engine Oil DEO-ULS-15W40 | Engine Oil | 20L | Yes | Yes | N/A | 5 Engine Oil CAT_DEO_ULS_15W40 SDS (Exp. Mar 2027).pdf | 30 Mar 2027 |
| Transmission & Drivetrain Oil | Lubricant for plant | 80L | Yes | Yes | Yes | 6 Transmission & Drivetrain Oil CAT TDTO 30 SDS (Exp. Dec 2025).pdf | 20 Dec 2025 |
| Hydrochloric Acid | Reagent | 1000L | Yes | Yes | Yes | 7. Hydrochloric Acid. Expiry April 2030.pdf | 11 Apr 2030 |
| Sodium Hydroxide WWCA30 | pH Adjustment | 1000L | Yes | Yes | Yes | 8. Sodium Hydroxide. Expiry June 2030.pdf | 27 Jun 2030 |
| WWAP30 Polymer | Coagulant | 1000L | Yes | N/A | N/A | 11. WWAP30-Polymer SDS (Exp. Dec 2028).pdf | 29 Dec 2028 |

*Template Rev. 5 - 27.12.19*

# SAFETY DATA SHEET

Unleaded 91

## Section 1. Identification

**GHS product identifier** Unleaded 91

**Other means of identification** regular unleaded petrol

**Product code** 0000002733

**SDS no.** 0000002733

**Historic SDS no.** 875; 0000002889

**Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/ mixture** Use only as a motor fuel for spark ignition engines. NOT for aviation use. Should NOT be used as a solvent nor cleaning agent.
For specific application advice see appropriate Technical Data Sheet or consult our company representative.

**Manufacturer**

**Supplier**

BP Australia Pty Ltd
Level 17, 717 Bourke Street
Docklands, Victoria 3008
ABN 53 004 085 616

www.bp.com.au

Technical Helpline Number: 1300 139 700

**EMERGENCY TELEPHONE NUMBER** 1800 638 556

## Section 2. Hazard(s) identification

**Classification of the substance or mixture**

FLAMMABLE LIQUIDS - Category 1
SKIN CORROSION/IRRITATION - Category 2
GERM CELL MUTAGENICITY - Category 1B
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

**GHS label elements**

**Hazard pictograms**

**Signal word** DANGER

**Hazard statements**

H224 - Extremely flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H340 - May cause genetic defects.
H350 - May cause cancer.

**Precautionary statements**

**General**

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

## Section 2. Hazard(s) identification

**Prevention**

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P271 - Use only outdoors or in a well-ventilated area.
P261 - Avoid breathing vapour.
P264 - Wash hands thoroughly after handling.

**Response**

P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P362 - Take off contaminated clothing and wash before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 - If skin irritation occurs: Get medical attention.

**Storage**

P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Keep cool.

**Disposal**

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

**Supplemental label elements**

Not applicable.

**Other hazards which do not result in classification**

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapour may cause flash fire or explosion.

## Section 3. Composition and ingredient information

**Substance/mixture**

Mixture

A complex mixture of volatile hydrocarbons containing paraffins, naphthenes, olefins and aromatics with carbon numbers predominantly between C4 and C12. May contain oxygenates. May also contain small quantities of proprietary performance additives.

| Ingredient name | % (w/w) | CAS number |
|---|---|---|
| Gasoline | ≥90 | 86290-81-5 |
| Contains: | | |
| Benzene | <1 | 71-43-2 |
| Polycyclic aromatic hydrocarbons (PAHs) | <1 | mixture |
| diisopropyl ether | <1 | 108-20-3 |
| 2-methylpropan-2-ol | <1 | 75-65-0 |
| tert-butyl methyl ether | <1 | 1634-04-4 |

**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.

**Inhalation**

If inhaled, remove to fresh air. Get medical attention. If exposure to vapour, mists or fumes causes drowsiness, headache, blurred vision or irritation of the eyes, nose or throat, remove immediately to fresh air. Keep patient warm and at rest. If any symptoms persist obtain medical advice.

**Skin contact**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Clean shoes thoroughly before reuse. Get medical attention.

**Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. 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**

Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

**Specific treatments**

No specific treatment.

**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.

# Section 5. Firefighting measures

## Extinguishing media

**Suitable extinguishing media**

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

**Unsuitable extinguishing media**

Do not use water jet.

**Specific hazards arising from the chemical**

Extremely flammable liquid and vapour. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Vapours can form explosive mixtures with air. Vapours are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly-grounded containers. Static accumulation may be significantly increased by the presence of small

## Section 5. Firefighting measures

quantities of water or other contaminants. Liquid will float and may reignite on surface of water.

**Hazardous thermal decomposition products**

Combustion products may include the following:
carbon oxides (CO, $CO_2$) (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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters**

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**Hazchem code**

3YE

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**

Immediately 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. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

**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). Water polluting material. May be harmful to the environment if released in large quantities. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recycle, recovery or safe disposal.

**Methods and material for containment and cleaning up**

**Small spill**

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

**Large spill**

Eliminate all ignition sources. 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. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. Dispose of via a licensed waste disposal contractor.

## Section 6. Accidental release measures

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures**

Do not fill container while it is in or on a vehicle. Static electricity may ignite vapour and cause fire. Place container on ground when filling and keep nozzle in contact with container.

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. Avoid contact of spilt material and runoff with soil and surface waterways. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Restrict flow velocity according to API 2003 (2008), NFPA 77 (2007), and Laurence Britton, “Avoiding Static Ignition Hazards in Chemical Operations”. To reduce potential for static discharge, ensure that all equipment is properly grounded and bonded and meets appropriate electrical classification requirements.

**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, including any incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. 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. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapour mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour or mists generated will create a flammability or

## Section 7. Handling and storage

explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

## Section 8. Exposure controls and personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Gasoline | **ACGIH TLV (United States).**<br>TWA: 300 ppm 8 hours. Issued/Revised: 5/1996<br>TWA: 890 mg/m³ 8 hours. Issued/Revised: 5/1996<br>STEL: 500 ppm 15 minutes. Issued/Revised: 5/1996<br>STEL: 1480 mg/m³ 15 minutes. Issued/Revised: 5/1996 |
| Benzene | **Safe Work Australia (Australia).**<br>TWA: 3.2 mg/m³ 8 hours. Issued/Revised: 4/2003<br>TWA: 1 ppm 8 hours. Issued/Revised: 4/2003 |
| Polycyclic aromatic hydrocarbons (PAHs) | **Safe Work Australia (Australia).**<br>TWA: 0.2 mg/m³ 8 hours. |
| diisopropyl ether | **Safe Work Australia (Australia).**<br>STEL: 1300 mg/m³ 15 minutes. Issued/Revised: 5/1995<br>STEL: 310 ppm 15 minutes. Issued/Revised: 5/1995<br>TWA: 1040 mg/m³ 8 hours. Issued/Revised: 5/1995<br>TWA: 250 ppm 8 hours. Issued/Revised: 5/1995 |
| 2-methylpropan-2-ol | **Safe Work Australia (Australia).**<br>STEL: 455 mg/m³ 15 minutes. Issued/Revised: 5/1995<br>STEL: 150 ppm 15 minutes. Issued/Revised: 5/1995<br>TWA: 303 mg/m³ 8 hours. Issued/Revised: 5/1995<br>TWA: 100 ppm 8 hours. Issued/Revised: 5/1995 |
| tert-butyl methyl ether | **Safe Work Australia (Australia).**<br>STEL: 275 mg/m³ 15 minutes. Issued/Revised: 4/2002<br>STEL: 75 ppm 15 minutes. Issued/Revised: 4/2002<br>TWA: 92 mg/m³ 8 hours. Issued/Revised: 4/2002<br>TWA: 25 ppm 8 hours. Issued/Revised: 4/2002 |

# Section 8. Exposure controls and 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.

**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**

Chemical splash goggles.

**Skin protection**

**Hand protection**

Wear chemical resistant gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

**Recommended:** Gloves made from fluoroelastomer resistant to hydrocarbons and a wide range of chemicals.
Wear a chemically resistant multi-layer laminate inner glove inside an outer nitrile glove. The purpose of the outer glove is to protect the inner glove from cuts and mechanical damage. The presence of aromatic hydrocarbons in the product will significantly shorten the length of time that nitrile gloves will provide protection. Do not re-use nitrile gloves if exposed to aromatic hydrocarbons.

**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.
Wear suitable protective clothing.
Footwear highly resistant to chemicals.
When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static.
When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be

## Section 8. Exposure controls and personal protection

required.
Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes.

**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**

Use with adequate ventilation.
If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.
The filter class must be suitable for the maximum contaminant concentration (gas/ vapour/aerosol/particulates) that may arise when handling the product.

**Recommended:** Avoid breathing of vapours, mists or spray. Select and use respirators in accordance with AS/NZS 1715/1716. When mists or vapours exceed the exposure standards then the use of the following is recommended: Approved respirator with organic vapour and dust/mist (Type P1) filters. Filter capacity and respirator type depends on exposure level.

**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. Clear and Bright |
| **Colour** | Pale colour. Yellow. to Red. |
| **Odour** | Hydrocarbon. |
| **Odour threshold** | Not available. |
| **pH** | Not available. |
| **Melting point** | Not available. |
| **Boiling point** | 30 to 210°C (86 to 410°F) |
| **Flash point** | Closed cup: <-40°C (<-40°F) |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not applicable. Based on - Physical state |
| **Lower and upper explosive (flammable) limits** | Lower: 1.4%<br>Upper: 7.6% |
| **Vapour pressure** | 30.1 to 100.3 kPa (225.6 to 752 mm Hg) |
| **Vapour density** | >1 [Air = 1] |
| **Relative density** | Not available. |
| **Density** | 710 to 750 kg/m³ (0.71 to 0.75 g/cm³) |
| **Solubility** | insoluble in water. |
| **Partition coefficient: n-octanol/water** | Not available. |
| **Auto-ignition temperature** | >350°C (>662°F) |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Kinematic: 0.4 to 0.55 $mm^2/s$ (0.4 to 0.55 cSt) at 40°C |
| **Remarks** | Reid vapor pressure (RVP): 55 to 100 kPa (40 °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). 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

#### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Gasoline | LC50 Inhalation Vapour | Rat | >7630 mg/m³ Nominal | 4 hours |
| | LC50 Inhalation Vapour | Rat | >5610 mg/m³ analytical | 4 hours |
| | LD50 Dermal | Rabbit | >2000 mg/kg | - |
| | LD50 Oral | Rat | >5000 mg/kg | - |
| diisopropyl ether | LC50 Inhalation Vapour | Rat | 40.5 mg/m³ | 1 hours |
| | LD50 Dermal | Rabbit | 2000 mg/kg | - |
| | LD50 Oral | Rat | 8470 mg/kg | - |
| 2-methylpropan-2-ol | LC50 Inhalation Vapour | Rat | >10000 ppm | 4 hours |
| | LD50 Oral | Rabbit | 3559 mg/kg | - |
| | LD50 Oral | Rat | 2743 mg/kg | - |
| tert-butyl methyl ether | LC50 Inhalation Vapour | Rat | 85 mg/l | 4 hours |
| | LD50 Dermal | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | >2000 mg/kg | - |

#### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Gasoline | Skin - Irritant | Rabbit | - | - | - |
| | Eyes - Non-irritating to the eyes. | Rabbit | - | - | - |
| tert-butyl methyl ether | Skin - Irritation | Rabbit | - | - | - |
| | Eyes - Non-irritating to the eyes. | Rabbit | - | - | - |

**Skin** Causes skin irritation.

**Skin** Not classified. Based on available data, the classification criteria are not met.

#### Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| Gasoline | Equivalent to OECD 476 | Experiment: In vitro<br>Subject: Mammal - species unspecified | Negative |
| | Equivalent to OECD 471 | Experiment: In vitro<br>Subject: Non-mammalian species | Negative |
| | EPA OPPTS 870.5395 | Experiment: In vivo<br>Subject: Unspecified<br>Cell: Germ | Negative |
| | Equivalent to OECD 475 | Experiment: In vivo | Negative |

| | | | |
|---|---|---|---|
| | | Subject: Unspecified<br>Cell: Germ | |
| tert-butyl methyl ether | EU B 13/14 | Experiment: In vitro<br>Subject: Non-mammalian species | Negative |
| | OECD 471 | Experiment: In vitro<br>Subject: Non-mammalian species | Negative |
| | OECD 476 | Experiment: In vitro<br>Subject: Non-mammalian species | Negative |
| | Equivalent to OECD 473 | Experiment: In vitro<br>Subject: Non-mammalian species | Negative |
| | Equivalent to OECD 486 | Experiment: In vivo<br>Subject: Unspecified<br>Cell: Somatic | Negative |
| | Equivalent to EPA OPPTS 870.5385 | Experiment: In vivo<br>Subject: Unspecified<br>Cell: Somatic | Negative |
| | Equivalent to EPA OPPTS 798.5385 | Experiment: In vivo<br>Subject: Unspecified<br>Cell: Somatic | Negative |

**Conclusion/Summary** May cause genetic defects.

**Carcinogenicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Gasoline | Negative - Inhalation - Unspecified | Rat | - | 113 weeks |
| | Negative - Dermal - Unspecified | Mouse | - | 102 weeks |
| tert-butyl methyl ether | Positive - Inhalation - Unspecified | Rat | - | 2 years |

**Conclusion/Summary** May cause cancer

**Reproductive toxicity**

| Product/ingredient name | Maternal toxicity | Fertility | Developmental toxin | Species | Dose | Exposure |
|---|---|---|---|---|---|---|
| Gasoline | - | Negative | - | Rat | Inhalation | 2 generation |
| | - | - | Negative | Rat | Inhalation | 14 days |
| tert-butyl methyl ether | - | Negative | - | Rat | Inhalation | 2 generation |
| | - | - | Negative | Rat | Inhalation | 9 days |

**Specific target organ toxicity (single exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Gasoline | Category 3 | - | Narcotic effects |
| Benzene | Category 3 | - | Respiratory tract irritation |
| | Category 3 | | Narcotic effects |
| diisopropyl ether | Category 3 | - | Narcotic effects |

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

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Benzene | Category 1 | - | blood system |

# Section 11. Toxicological information

## Aspiration hazard

| Name | Result |
|---|---|
| Gasoline | ASPIRATION HAZARD - Category 1 |

**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** Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** Causes skin irritation.

**Ingestion** Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

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

**Eye contact** Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Skin contact** Adverse symptoms may include the following:
irritation
redness

**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** Vapour, mist or fume may cause eye irritation. Exposure to vapour, mist or fume may cause stinging, redness and watering of the eyes.

**Inhalation** Vapour, mist or fume may irritate the nose, mouth and respiratory tract.

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

**Ingestion** If swallowed, may irritate the mouth, throat and digestive system. If swallowed, may cause abdominal pain, stomach cramps, nausea, vomiting, diarrhoea, dizziness and drowsiness.

**General** Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possibly death.

**Carcinogenicity** May cause cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** May cause genetic defects.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|

| | |
|---|---|
| Inhalation (vapours) | 1156.79 mg/l |

**Other information**

Gasoline - Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital).
Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

Gasoline: Additional toxicity information on components.

Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs.
Studies in occupationally exposed individuals indicate that toluene exposure has been associated with impaired color vision and decreased performance in some neurobehavioral tests.
Prolonged high level exposure to toluene or xylene has caused some degree of hearing loss in experimental animals.
Inhalation of very high concentrations of gasoline vapors and some of its components can result in cardiac sensitization and irregular heartbeats, leading to potentially fatal changes in heart rhythms. Injection of adrenaline-like agents may enhance this effect.

Benzene: Acute toxicity of benzene results primarily from depression of the central nervous system (CNS). Inhalation of concentrations over 50 ppm can produce headache, lassitude, weariness, dizziness, drowsiness, or excitation. Exposure to very high levels can result in unconsciousness and death.

## Section 11. Toxicological information

Benzene: Long-term overexposure to benzene has been associated with certain types of leukemia in humans. In addition, the International Agency for Research on Cancer (IARC), the National Toxicology Program, and OSHA consider benzene to be a human carcinogen. Chronic exposures to high levels of benzene have been reported to cause adverse blood effects including anemia. Benzene exposure can occur by inhalation and absorption through the skin.
Inhalation and forced feeding studies of benzene in laboratory animals have produced a carcinogenic response in a variety of organs, including possibly leukemia, other adverse effects on the blood, chromosomal changes and some effects on the immune system. Exposure to benzene at levels up to 300 ppm did not produce birth defects in animal studies; however, exposure to higher dosage levels resulted in a reduction of body weight of the rat pups (fetotoxicity). Changes in the testes have been observed in mice exposed to benzene at 300 ppm, but reproductive performance was not altered in rats exposed to benzene at the same level. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this material.

## Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Gasoline | Acute EC50 15.41 mg/l Nominal Fresh water | Micro-organism | 40 hours |
| | Acute EL50 3.1 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute EL50 3.7 mg/l Nominal Fresh water | Algae | 96 hours |
| | Acute EL50 4.5 mg/l Nominal Fresh water | Daphnia | 48 hours |
| | Acute LL50 10 mg/l Nominal Fresh water | Fish | 96 hours |
| | Acute LL50 8.2 mg/l Nominal Fresh water | Fish | 96 hours |
| | Acute NOELR 0.5 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute NOELR 0.5 mg/l Nominal Fresh water | Daphnia | 48 hours |
| | Chronic EL50 10 mg/l Nominal Fresh water | Daphnia | 21 days |
| | Chronic EL50 >40 mg/l Nominal Fresh water | Daphnia | 21 days |
| | Chronic EL50 10 mg/l Nominal Fresh water | Fish | 21 days |
| | Chronic LL50 5.2 mg/l Nominal Fresh water | Fish | 14 days |
| | Chronic NOELR 2.6 mg/l Nominal Fresh water | Daphnia | 21 days |
| | Chronic NOELR 16 mg/l Nominal Fresh water | Daphnia | 21 days |
| | Chronic NOELR 2.6 mg/l Nominal Fresh water | Fish | 14 days |
| | Chronic NOELR 2.6 mg/l Nominal Fresh water | Fish | 21 days |
| | Chronic PNEC >0.4 mg/kg | soil, plants | - |
| tert-butyl methyl ether | Acute EC50 472 mg/l Fresh water | Daphnia | 48 hours |
| | Acute LC50 200 mg/l Marine water | Crustaceans | 96 hours |
| | Acute LC50 672 mg/l Fresh water | Fish | 96 hours |
| | Acute LC50 574 mg/l Marine water | Fish | 96 hours |
| | Chronic NOEC 26 mg/l Marine water | Crustaceans | 28 days |
| | Chronic NOEC 51 mg/l Fresh water | Daphnia | 21 days |

# Section 12. Ecological information

**Conclusion/Summary** Toxic to aquatic life with long lasting effects.

## Persistence and degradability

Expected to be biodegradable. Non-persistent per IMO criteria

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| tert-butyl methyl ether | not guideline | 100 % - 1.25 days | - | - |
| | Modelled data | 61 to 69 % - 151 days | - | - |
| | OECD 301 D | 9.24 % - Not readily - 28 days | - | - |
| | OECD 301 D | 1.8 % - Not readily - 28 days | - | - |
| | OECD 301 D | 0 % - Not readily - 28 days | - | - |
| | Modelled data | 0 % - 250 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Gasoline | - | - | Inherent |

## Bioaccumulative potential

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

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Gasoline | 2 to 7 | - | high |
| Benzene | 2.13 | 11 | low |
| diisopropyl ether | 2.4 | - | low |
| 2-methylpropan-2-ol | 0.317 | - | low |
| tert-butyl methyl ether | 1.04 | 1.5 | low |

## Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** Not available.

**Mobility** Spillages may penetrate the soil causing ground water contamination.

**Other ecological information** Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

# 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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

## Section 14. Transport information

| | ADG | IMDG | IATA |
|---|---|---|---|
| **UN number** | UN1203 | UN1203 | UN1203 |
| **UN proper shipping name** | MOTOR SPIRIT or GASOLINE or PETROL | MOTOR SPIRIT or GASOLINE or PETROL. Marine pollutant | MOTOR SPIRIT or GASOLINE or PETROL |
| **Transport hazard class(es)** | 3  | 3  | 3  |
| **Packing group** | II | II | II |
| **Environmental hazards** | No. | Yes. | Yes. The environmentally hazardous substance mark is not required. |
| **Additional information** | **Hazchem code** 3YE **Initial emergency response guide** 14 | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E, S-E | The environmentally hazardous substance mark may appear if required by other transportation regulations. |

**Special precautions for user** Not available.

**Transport in bulk according to IMO instruments** **Proper shipping name** MARPOL Annex 1 rules apply for bulk shipments by sea.
Category: gasoline and spirits

## Section 15. Regulatory information

**Standard for the Uniform Scheduling of Medicines and Poisons**

Not scheduled. When packed in containers having capacity of greater than 20 litres.

S5. When packed in containers having capacity of less than 20 litres.

**Model Work Health and Safety Regulations - Scheduled Substances**

| Ingredient name | Schedule |
|---|---|
| Benzene | Restricted carcinogen [All uses involving benzene as a feedstock containing more than 50% of benzene by volume; Restricted use - Genuine research or analysis; For spray painting if the substance contains more than 1% by volume] |

**Montreal Protocol**

| 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)**

## Section 15. Regulatory information

| 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)** | Contact local supplier or distributor. |
| **Canada inventory** | Not determined. |
| **China inventory (IECSC)** | Not determined. |
| **Japan inventory (ENCS)** | Not determined. |
| **Korea inventory (KECI)** | At least one component is not listed. |
| **Philippines inventory (PICCS)** | Not determined. |
| **Taiwan Chemical Substances Inventory (TCSI)** | Not determined. |
| **United States inventory (TSCA 8b)** | Not determined. |

## Section 16. Any other relevant information

**History**

| | |
|---|---|
| **Date of printing** | 5/26/2021 |
| **Date of issue/Date of revision** | 5/26/2021 |
| **Date of previous issue** | 5/25/2021 |
| **Version** | 4.01 |
| **Prepared by** | Product Stewardship |
| **Key to abbreviations** | ADG = Australian Dangerous Goods<br>ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>NOHSC = National Occupational Health and Safety Commission<br>REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]<br>STEL = Short term exposure limit<br>SUSMP = Standard Uniform Schedule of Medicine and Poisons<br>UN = United Nations<br>TWA = Time weighted average<br>VOC = Volatile Organic Compound<br>SADT = Self-Accelerating Decomposition Temperature<br>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**

## Section 16. Any other relevant information

| Classification | Justification |
|---|---|
| FLAMMABLE LIQUIDS - Category 1 | On basis of test data |
| SKIN CORROSION/IRRITATION - Category 2 | Calculation method |
| GERM CELL MUTAGENICITY - Category 1B | Expert judgment |
| CARCINOGENICITY - Category 1B | Expert judgment |
| SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 | Calculation method |
| ASPIRATION HAZARD - Category 1 | 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. 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.

# SAFETY DATA SHEET

BP Ultimate Diesel

## Section 1. Identification

**GHS product identifier** BP Ultimate Diesel

**Product code** 0000002790

**SDS no.** 0000002790

**Relevant identified uses of the substance or mixture and uses advised against**

**Use of the substance/ mixture** Fuel for compression ignition diesel engines.

**Manufacturer**

**Supplier**

BP Australia Pty Ltd
Level 17, 717 Bourke Street
Docklands, Victoria 3008
ABN 53 004 085 616

www.bp.com.au

Technical Helpline Number: 1300 139 700

**EMERGENCY TELEPHONE NUMBER** 1800 638 556

## Section 2. Hazard(s) identification

**Classification of the substance or mixture**

FLAMMABLE LIQUIDS - Category 4
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
ASPIRATION HAZARD - Category 1

**GHS label elements**

**Hazard pictograms**

**Signal word** DANGER

**Hazard statements**

H227 - Combustible liquid.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H332 - Harmful if inhaled.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure. (bone marrow, liver, thymus)

**Precautionary statements**

**General**

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

**Prevention**

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P281 - Use personal protective equipment as required.
P280 - Wear protective gloves, protective clothing and eye or face protection.
P210 - Keep away from flames and hot surfaces. No smoking.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapour or spray.

## Section 2. Hazard(s) identification

P264 - Wash hands thoroughly after handling.

**Response**

P308 + P313 - IF exposed or concerned: Get medical attention.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
P362 - Take off contaminated clothing and wash before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 - If skin irritation occurs: Get medical attention.

**Storage**

P405 - Store locked up.
P403 + P235 - Store in a well-ventilated place. Keep cool.

**Disposal**

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

**Supplemental label elements**

Not applicable.

**Other hazards which do not result in classification**

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapour may cause flash fire or explosion.
Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.
See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

## Section 3. Composition and ingredient information

**Substance/mixture** Mixture

May also contain small quantities of proprietary performance additives. Contains small quantities of polycyclic aromatic hydrocarbons (PAHs).

| Ingredient name | % (w/w) | CAS number |
|---|---|---|
| Fuels, diesel | ≥80 | 68334-30-5 |
| Alkanes, C10-20-branched and linear | ≤20 | 928771-01-1 |

**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.

**Inhalation**

If inhaled, remove to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. 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. Drench contaminated clothing with water before removing. This is necessary to avoid the risk of sparks from static electricity that could ignite contaminated clothing. Contaminated clothing is a fire hazard. Contaminated leather, particularly footwear, must be discarded. Clean shoes thoroughly before reuse. Get medical attention.

**Ingestion**

Do not induce vomiting. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention immediately.

## Section 4. First aid measures

### 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**

Treatment should in general be symptomatic and directed to relieving any effects. Product can be aspirated on swallowing or following regurgitation of stomach contents, and can cause severe and potentially fatal chemical pneumonitis, which will require urgent treatment. Because of the risk of aspiration, induction of vomiting and gastric lavage should be avoided. Gastric lavage should be undertaken only after endotracheal intubation. Monitor for cardiac dysrhythmias.

Note: High Pressure Applications
Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis.
Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

**Specific treatments**

No specific treatment.

**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.

## Section 5. Firefighting measures

### Extinguishing media

**Suitable extinguishing media**

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

**Unsuitable extinguishing media**

Do not use water jet.

**Specific hazards arising from the chemical**

Combustible liquid. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Vapours can form explosive mixtures with air. Vapours are heavier than air and can spread along the ground or float on water surfaces to remote ignition sources. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly-grounded containers. Static accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Liquid will float and may reignite on surface of water.

**Hazardous thermal decomposition products**

Combustion products may include the following:
carbon oxides (CO, $CO_2$) (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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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**

Immediately 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. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Eliminate all ignition sources.

**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). Water polluting material. May be harmful to the environment if released in large quantities. In case of small spillages in closed waters (i.e. ports), contain product with floating barriers or other equipment. Collect spilled product by absorbing with specific floating absorbents. If possible, large spillages in open waters should be contained with floating barriers or other mechanical means. If this is not possible, control the spreading of the spillage, and collect the product by skimming or other suitable mechanical means. The use of dispersants should be advised by an expert, and, if required, approved by local authorities. Collect recovered product and other contaminated materials in suitable tanks or containers for recycle, recovery or safe disposal.

## Methods and material for containment and cleaning up

**Small spill**

Eliminate all ignition sources. Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres.

**Large spill**

Eliminate all ignition sources. 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. Dike spill area and do not allow product to reach sewage system and surface or ground water. 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. Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilt product. The method and equipment used must be in conformance with appropriate regulations and industry practice on explosive atmospheres. 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. 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 swallow. Aspiration hazard if swallowed. Can enter lungs and cause damage. Never siphon by mouth. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container. Avoid

## Section 7. Handling and storage

contact of spilt material and runoff with soil and surface waterways. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Restrict flow velocity according to API 2003 (2008), NFPA 77 (2007), and Laurence Britton, “Avoiding Static Ignition Hazards in Chemical Operations”. To reduce potential for static discharge, ensure that all equipment is properly grounded and bonded and meets appropriate electrical classification requirements.

**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, including any incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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.

Light hydrocarbon vapours can build up in the headspace of tanks. These can cause flammability/explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapour in tank headspaces). Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. Do not enter storage tanks. If entry to vessels is necessary, follow permit to work procedures. 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. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks). Explosive air/vapour mixtures may form at ambient temperature. If product comes into contact with hot surfaces, or leaks occur from pressurised fuel pipes, the vapour or mists generated will create a flammability or explosion hazard. Product contaminated rags, paper or material used to absorb spillages, represent a fire hazard, and should not be allowed to accumulate. Dispose of safely immediately after use.

## Section 8. Exposure controls and personal protection

**Control parameters**

**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| Fuels, diesel | **ACGIH TLV (United States). Absorbed through skin.**<br>TWA: 100 mg/m³, (measured as total hydrocarbons) 8 hours. Issued/Revised: 1/2007 Form: Inhalable fraction and vapor |

# Section 8. Exposure controls and 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/face protection**

Chemical splash goggles.

**Skin protection**

**Hand protection**

Wear chemical resistant gloves. Recommended: Nitrile gloves.

Do not re-use gloves. Protective gloves must give suitable protection against mechanical risks (i.e. abrasion, blade cut and puncture). Protective gloves will deteriorate over time due to physical and chemical damage. Inspect and replace gloves on a regular basis. The frequency of replacement will depend upon the circumstances of use.

**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.
Wear suitable protective clothing.
Footwear highly resistant to chemicals.
When there is a risk of ignition wear inherently fire resistant protective clothes and gloves.
When there is a risk of ignition from static electricity, wear anti-static protective clothing. For greatest effectiveness against static electricity, overalls, boots and gloves should all be anti-static.
When the risk of skin exposure is high (from experience this could apply to the following tasks: cleaning work, maintenance and service, filling and transfer, taking samples and cleaning up spillages) then a chemical protective suit and boots will be required.
Work clothing / overalls should be laundered on a regular basis. Laundering of contaminated work clothing should only be done by professional cleaners who have been told about the hazards of the contamination. Always keep contaminated work clothing away from uncontaminated work clothing and uncontaminated personal clothes.

## Section 8. Exposure controls and personal protection

**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**

Use with adequate ventilation.
If there is a requirement for the use of a respiratory protective device, but the use of breathing apparatus (independent of ambient atmosphere) is not required, then a suitable filtering device must be worn.
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product.

**Recommended:** If ventilation is inadequate, use respirator that will protect against organic vapour and dust/mist.

**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** Clear and Bright. Colourless to light yellow.

**Odour** Mild

**Odour threshold** Not available.

**pH** Not available.

**Melting point** Not available.

**Boiling point** 108 to 380°C (226.4 to 716°F)

**Flash point** Closed cup: >61.5°C (>142.7°F) [Pensky-Martens.]

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable. Based on - Physical state

**Lower and upper explosive (flammable) limits** Lower: 0.5%
Upper: 7.5%

**Vapour pressure** 0.1 kPa (0.755 mm Hg)

**Vapour density** >1 [Air = 1]

**Relative density** 0.83

**Density** 820 to 850 kg/m³ (0.82 to 0.85 g/cm³) at 15°C

**Solubility** Very slightly soluble in water

**Partition coefficient: n-octanol/water** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Kinematic: 2 to 4.5 $mm^2/s$ (2 to 4.5 cSt) at 40°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). 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

### Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Fuels, diesel | LC50 Inhalation Dusts and mists | Rat | 4.1 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | >4300 mg/kg | - |
| | LD50 Dermal | Rabbit | >4300 mg/kg | - |
| | LD50 Oral | Rat | 17900 mg/kg | - |
| | LD50 Oral | Rat | 7600 mg/kg | - |

**Conclusion/Summary** Harmful if inhaled.

### Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| Fuels, diesel | Skin - Irritation | Rabbit | - | - | - |
| | Skin - Irritation | Rabbit | - | - | - |
| | Eyes - Non-irritating to the eyes. | Rabbit | - | - | - |
| | Eyes - Non-irritating to the eyes. | Rabbit | - | - | - |

**Skin** Causes skin irritation.

### Sensitisation

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| Fuels, diesel | skin | Guinea pig | Not sensitising |
| | skin | Guinea pig | Not sensitising |

### Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| Fuels, diesel | OECD 471 | Experiment: In vitro<br>Subject: Non-mammalian species | Positive |
| | Equivalent to OECD 476 | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Germ | Negative |
| | not guideline | Experiment: In vivo<br>Subject: Unspecified<br>Cell: Somatic | Negative |

**Conclusion/Summary** Not classified. Based on available data, the classification criteria are not met.

### Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| Fuels, diesel | Positive - Dermal - Unspecified | Mouse | - | 2 years |

**Conclusion/Summary** Suspected of causing cancer.

### Reproductive toxicity

| Product/ingredient name | Maternal toxicity | Fertility | Developmental toxin | Species | Dose | Exposure |
|---|---|---|---|---|---|---|
| Fuels, diesel | - | - | Negative | Rat | Dermal | 20 days |
| | - | - | Negative | Rat | Dermal | 10 days |
| | - | - | Negative | Rat | Dermal | 10 days |

# Section 11. Toxicological information

**Conclusion/Summary**

Development: Not classified. Based on available data, the classification criteria are not met.
Fertility: Not classified. Based on available data, the classification criteria are not met.
Effects on or via lactation: Not classified. Based on available data, the classification criteria are not met.

## Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Fuels, diesel | Category 2 | - | bone marrow, liver, thymus |

## Aspiration hazard

| Name | Result |
|---|---|
| Fuels, diesel | ASPIRATION HAZARD - Category 1 |
| Alkanes, C10-20-branched and linear | ASPIRATION HAZARD - Category 1 |

**Information on likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

## Potential acute health effects

**Eye contact**

No known significant effects or critical hazards.

**Inhalation**

Harmful if inhaled.

**Skin contact**

Causes skin irritation.

**Ingestion**

Irritating to mouth, throat and stomach. Aspiration hazard if swallowed -- harmful or fatal if liquid is aspirated into lungs.

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

**Eye contact**

Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation**

Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

**Skin contact**

Adverse symptoms may include the following:
irritation
redness

**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**

Vapour, mist or fume may cause eye irritation. Exposure to vapour, mist or fume may cause stinging, redness and watering of the eyes.

**Inhalation**

Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. Vapour, mist or fume may irritate the nose, mouth and respiratory tract.

**Skin contact**

As with all such products containing potentially harmful levels of polycyclic aromatic hydrocarbons, prolonged or repeated skin contact may eventually result in dermatitis or more serious irreversible skin disorders including cancer.

# Section 11. Toxicological information

**Ingestion** If swallowed, may irritate the mouth, throat and digestive system. If swallowed, may cause abdominal pain, stomach cramps, nausea, vomiting, diarrhoea, dizziness and drowsiness.

**General** May cause damage to organs through prolonged or repeated exposure. Vapour, mists or fumes may contain polycyclic aromatic hydrocarbons some of which are known to produce skin cancer. May be harmful by inhalation if exposure to vapour, mists or fumes resulting from thermal decomposition products occurs. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

**Carcinogenicity** Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** No known significant effects or critical hazards.

**Teratogenicity** No known significant effects or critical hazards.

**Developmental effects** No known significant effects or critical hazards.

**Fertility effects** No known significant effects or critical hazards.

## Numerical measures of toxicity

### Acute toxicity estimates

| Route | ATE value |
|---|---|
| Inhalation (dusts and mists) | 4.1 mg/l |

**Other information** Diesel exhaust particulates have been classified by the National Toxicological Program (NTP) to be a reasonably anticipated human carcinogen. Exposure should be minimized to reduce potential risk.

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| Fuels, diesel | EL50 >1000 mg/l Nominal Fresh water | Micro-organism | 40 hours |
| | NOELR 3.217 mg/l Nominal Fresh water | Micro-organism | 40 hours |
| | Acute EL50 22 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute EL50 210 mg/l Nominal Fresh water | Daphnia | 48 hours |
| | Acute EL50 68 mg/l Nominal Fresh water | Daphnia | 48 hours |
| | Acute ErL50 78 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute LL50 65 mg/l Nominal Fresh water | Fish | 96 hours |
| | Acute LL50 21 mg/l Nominal Fresh water | Fish | 96 hours |
| | Acute NOELR 10 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute NOELR 1 mg/l Nominal Fresh water | Algae | 72 hours |
| | Acute NOELR 46 mg/l Nominal Fresh water | Daphnia | 48 hours |
| | Chronic NOEL 0.083 mg/l Nominal Fresh water | Fish | 14 days |
| | Chronic NOELR 0.2 mg/l Nominal Fresh water | Daphnia | 21 days |

## Persistence and degradability

## Section 12. Ecological information

Non-persistent per IMO criteria

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|---|---|---|
| Fuels, diesel | OECD 301 F<br>OECD 301 F<br>Equivalent to EPA OTS 796.3100 | 60 % - Readily - 28 days<br>57.5 % - Not readily - 28 days<br>35 % - Not readily - 28 days | 30 mg/l<br>25 mg/l<br>5 mg/l | -<br>-<br>- |

**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. This material may accumulate in sediments.

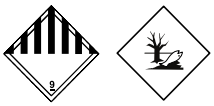
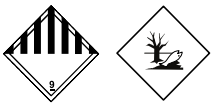
**Other ecological information** Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

## 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Special Precautions for Landfill or Incineration** Empty packages may contain some remaining product. Hazard warning labels are a guide to the safe handling of empty packaging and should not be removed.

## Section 14. Transport information

| | ADG | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated. | UN3082 | UN3082 |
| **UN proper shipping name** | - | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.. Marine pollutant (Fuels, diesel) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Fuels, diesel) |
| **Transport hazard class(es)** | - | 9  | 9  |
| **Packing group** | - | III | III |
| | | | |

## Section 14. Transport information

| | | | |
|---|---|---|---|
| **Environmental hazards** | No. | Yes. | Yes. |
| **Additional information** | **Remarks** Combustible liquid Class C1 (AS 1940). | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.<br>**Emergency schedules**<br>F-A, S-F | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. |

**Special precautions for user** Not available.

**Transport in bulk according to IMO instruments**

**Proper shipping name** MARPOL Annex 1 rules apply for bulk shipments by sea.
Category: gas oils, including ship's bunkers

## Section 15. Regulatory information

**Standard for the Uniform Scheduling of Medicines and Poisons**

Not regulated.

**Model Work Health and Safety Regulations - Scheduled Substances**

No listed substance

**Montreal Protocol**

| 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)** | Contact supplier for regulatory information. |
| **Canada inventory** | At least one component is not listed. |
| **China inventory (IECSC)** | Not determined. |
| **Japan inventory (ENCS)** | At least one component is not listed. |
| **Korea inventory (KECI)** | Not determined. |
| **Philippines inventory (PICCS)** | At least one component is not listed. |
| **Taiwan Chemical Substances Inventory (TCSI)** | All components are listed or exempted. |
| **United States inventory (TSCA 8b)** | Not determined. |

## Section 16. Any other relevant information

**History**

| | |
|---|---|
| **Date of printing** | 5/25/2021 |
| **Date of issue/Date of revision** | 5/25/2021 |
| **Date of previous issue** | 6/13/2016 |
| **Version** | 3 |
| **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 |
|---|---|
| FLAMMABLE LIQUIDS - Category 4 | On basis of test data |
| ACUTE TOXICITY (inhalation) - Category 4 | Calculation method |
| SKIN CORROSION/IRRITATION - Category 2 | Calculation method |
| CARCINOGENICITY - Category 2 | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 | Calculation method |
| ASPIRATION HAZARD - Category 1 | 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. 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.

# Premium Hydraulic Oil

## Anglo Design

Chemwatch Hazard Alert Code: **1**

Chemwatch: **69372**
Version No: **9.1**
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: **23/12/2022**
Print Date: **07/03/2023**
S.GHS.AUS.EN

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

### Product Identifier

| | |
|---|---|
| **Product name** | Premium Hydraulic Oil |
| **Chemical Name** | Not Applicable |
| **Synonyms** | Premium Hydraulic Oil ISO 12; Premium Hydraulic Oil ISO 22; Premium Hydraulic Oil ISO 32; Premium Hydraulic Oil ISO 46; Premium Hydraulic Oil ISO 68; Premium Hydraulic Oil ISO 100; Premium Hydraulic Oil ISO 150; Premium Hydraulic Oil ISO 220; Vac 30; Vac 10 |
| **Chemical formula** | Not Applicable |
| **Other means of identification** | Not Available |

### Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| **Relevant identified uses** | Oil for use in hydraulic systems. |

### Details of the manufacturer or supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | **Anglo Design** |
| **Address** | 2 Beaumont Road Mt Kuringai NSW 2080 Australia |
| **Telephone** | +61 2 9457 8566 |
| **Fax** | +61 2 9457 8057 |
| **Website** | www.anglomoil.com |
| **Email** | info@anglomoil.com |

### Emergency telephone number

| **Association / Organisation** | **Anglo Design** | **CHEMWATCH EMERGENCY RESPONSE (24/7)** |
|---|---|---|
| **Emergency telephone numbers** | +61 2 9457 8566 B.H. | +61 1800 951 288 |
| **Other emergency telephone numbers** | Not Available | +61 3 9573 3188 |

**Once connected and if the message is not in your preferred language then please dial 01**

## SECTION 2 Hazards identification

### Classification of the substance or mixture

**NON-HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

**Chemwatch Hazard Ratings**

**Page 1 continued...**

| | Min | Max |
|---|---|---|
| Flammability | 1 | |
| Toxicity | 0 | |
| Body Contact | 0 | |
| Reactivity | 0 | |
| Chronic | 0 | |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|---|---|
| **Poisons Schedule** | Not Applicable |
| **Classification [1]** | Not Applicable |

## Label elements

| | |
|---|---|
| **Hazard pictogram(s)** | Not Applicable |
| **Signal word** | **Not Applicable** |

## Hazard statement(s)

Not Applicable

## Precautionary statement(s) Prevention

Not Applicable

## Precautionary statement(s) Response

Not Applicable

## Precautionary statement(s) Storage

Not Applicable

## Precautionary statement(s) Disposal

Not Applicable

# SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No | %[weight] | Name |
|---|---|---|
| 63748-98-1 | >60 | mineral oil |
| Not Available | | (severely refined) |
| Not Available | 1-10 | corrosion inhibitors, antioxidants, unregulated |
| Not Available | | performance enhancers as |
| 68649-42-3 | <=1 | zinc dialkyl dithiophosphate |
| Not Available | | NOTE: Manufacturer has supplied full ingredient |
| Not Available | | information to allow CHEMWATCH assessment. |

| | |
|---|---|
| ***Legend:*** | *1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available* |

# SECTION 4 First aid measures

## Description of first aid measures

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Wash out immediately with fresh running water.<br>▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.<br>▸ Seek medical attention without delay; if pain persists or recurs seek medical attention.<br>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin contact occurs:<br>▸ Immediately remove all contaminated clothing, including footwear.<br>▸ Flush skin and hair with running water (and soap if available). |

**Continued...**

| | |
|---|---|
| | ‣ Seek medical attention in event of irritation. |
| **Inhalation** | ‣ If fumes or combustion products are inhaled remove from contaminated area.<br>‣ Lay patient down. Keep warm and rested.<br>‣ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.<br>‣ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.<br>‣ Transport to hospital, or doctor. |
| **Ingestion** | ‣ If swallowed do **NOT** induce vomiting.<br>‣ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>‣ Observe the patient carefully.<br>‣ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.<br>‣ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.<br>‣ Seek medical advice. |

### Indication of any immediate medical attention and special treatment needed

- Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

**NOTE:** Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

## SECTION 5 Firefighting measures

### Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### Special hazards arising from the substrate or mixture

| | |
|---|---|
| **Fire Incompatibility** | Avoid contamination with strong oxidising agents as ignition may result |

### Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | ‣ Alert Fire Brigade and tell them location and nature of hazard.<br>‣ Wear breathing apparatus plus protective gloves.<br>‣ Prevent, by any means available, spillage from entering drains or water course.<br>‣ Use water delivered as a fine spray to control fire and cool adjacent area. |
| **Fire/Explosion Hazard** | ‣ Combustible.<br>‣ Slight fire hazard when exposed to heat or flame.<br>‣ Heating may cause expansion or decomposition leading to violent rupture of containers.<br>‣ On combustion, may emit toxic fumes of carbon monoxide (CO).<br>Other combustion products include:<br>carbon dioxide ($CO_2$)<br>and minor amounts of<br>nitrogen oxides ($NO_x$)<br>sulfur dioxide ($SO_2$)<br>phosphorus oxides ($PO_x$)<br>zinc oxide |
| **HAZCHEM** | Not Applicable |

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

| | |
|---|---|
| **Minor Spills** | Slippery when spilt. |

**Continued...**

| | |
|---|---|
| | ‣ Remove all ignition sources.<br>‣ Clean up all spills immediately.<br>‣ Avoid breathing vapours and contact with skin and eyes.<br>‣ Control personal contact with the substance, by using protective equipment. |
| **Major Spills** | Slippery when spilt.<br>Remove all ignition sources.<br>Minor hazard.<br>‣ Clear area of personnel.<br>‣ Alert Fire Brigade and tell them location and nature of hazard.<br>‣ Control personal contact with the substance, by using protective equipment as required. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

| | |
|---|---|
| **Safe handling** | Remove all ignition sources.<br>‣ Limit all unnecessary personal contact.<br>‣ Wear protective clothing when risk of exposure occurs.<br>‣ Use in a well-ventilated area.<br>‣ Avoid contact with incompatible materials. |
| **Other information** | ‣ Store in original containers.<br>‣ Keep containers securely sealed.<br>‣ No smoking, naked lights or ignition sources.<br>‣ Store in a cool, dry, well-ventilated area. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | ‣ Metal can or drum<br>‣ Packaging as recommended by manufacturer.<br>‣ Check all containers are clearly labelled and free from leaks. |
| **Storage incompatibility** | Avoid storage with oxidisers |

**X** — *Must not be stored together*
**0** — *May be stored together with specific preventions*
**+** — *May be stored together*

*Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.*

## SECTION 8 Exposure controls / personal protection

### Control parameters

**Occupational Exposure Limits (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|
| Australia Exposure Standards | mineral oil | Oil mist, refined mineral | 5 mg/m3 | Not Available | Not Available | Not Available |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| mineral oil | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| mineral oil | 2,500 mg/m3 | Not Available |
| zinc dialkyl dithiophosphate | Not Available | Not Available |

**Occupational Exposure Banding**

**Continued...**

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|---|---|
| zinc dialkyl dithiophosphate | E | ≤ 0.01 mg/m³ |
| ***Notes:*** | *Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.* | |

## Exposure controls

| | |
|---|---|
| **Appropriate engineering controls** | General exhaust is adequate under normal operating conditions. |
| **Individual protection measures, such as personal protective equipment** |  |
| **Eye and face protection** | ‣ Safety glasses with side shields; or as required,<br>‣ Chemical goggles.<br>‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ‣ Barrier cream<br>‣ PVC gloves<br>· Nitrile rubber gloves (Note: Nitric acid penetrates nitrile gloves in a few minutes.)<br>‣ Rubber Gloves<br>‣ Safety footwear |
| **Body protection** | See Other protection below |
| **Other protection** | ‣ Overalls.<br>‣ Eyewash unit. |

## Respiratory protection

Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|---|---|---|---|
| up to 10 x ES | A-AUS | - | A-PAPR-AUS / Class 1 |
| up to 50 x ES | - | A-AUS / Class 1 | - |
| up to 100 x ES | - | A-2 | A-PAPR-2 ^ |

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

# SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Clear amber free flowing liquid, floats on water. Mineral oil smell. |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 0.88-0.92 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Available |
| **pH (as supplied)** | Not Applicable | **Decomposition temperature (°C)** | Not Available |
| **Melting point / freezing point (°C)** | Not Available | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | Not Available | **Molecular weight (g/mol)** | Not Applicable |

**Continued...**

| | | | |
|---|---|---|---|
| **Flash point (°C)** | > 100 | **Taste** | Not Available |
| **Evaporation rate** | Non Volatile | **Explosive properties** | Not Available |
| **Flammability** | Not Applicable | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | Not Available | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | Not Available | **Volatile Component (%vol)** | Nil @ 38 C. |
| **Vapour pressure (kPa)** | Negligible | **Gas group** | Not Available |
| **Solubility in water** | Immiscible | **pH as a solution (1%)** | Not Applicable |
| **Vapour density (Air = 1)** | > 1 | **VOC g/L** | Not Available |

## SECTION 10 Stability and reactivity

| | |
|---|---|
| **Reactivity** | See section 7 |
| **Chemical stability** | ‣ Unstable in the presence of incompatible materials.<br>‣ Product is considered stable.<br>‣ Hazardous polymerisation will not occur. |
| **Possibility of hazardous reactions** | See section 7 |
| **Conditions to avoid** | See section 7 |
| **Incompatible materials** | See section 7 |
| **Hazardous decomposition products** | See section 5 |

## SECTION 11 Toxicological information

### Information on toxicological effects

| | |
|---|---|
| **Inhaled** | Not normally a hazard due to non-volatile nature of product<br>Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs. |
| **Ingestion** | The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. |
| **Skin Contact** | The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.<br>The material may accentuate any pre-existing dermatitis condition |
| **Eye** | Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). |
| **Chronic** | Oil may contact the skin or be inhaled. Extended exposure can lead to eczema, inflammation of hair follicles, pigmentation of the face and warts on the soles of the feet. |

| | | |
|---|---|---|
| **Premium Hydraulic Oil** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **mineral oil** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **zinc dialkyl dithiophosphate** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >3000 mg/kg[1] | Eye (human):SEVERE [Manufacturer] |
| | Oral (Rat) LD50: 2154 mg/kg[1] | Eye: adverse effect observed (irritating)[1] |
| | | Skin: adverse effect observed (irritating)[1] |
| | | Skin: no adverse effect observed (not irritating)[1] |
| ***Legend:*** | *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances* | |

| | |
|---|---|
| **MINERAL OIL** | The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives; The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:<br>• The adverse effects of these materials are associated with undesirable components, and<br>• The levels of the undesirable components are inversely related to the degree of processing; |

**Continued...**

| | |
|---|---|
| | • Distillate base oils receiving the same degree or extent of processing will have similar toxicities;<br>• The potential toxicity of residual base oils is independent of the degree of processing the oil receives.<br>• The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.<br>Unrefined & mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential cancer-causing and mutation-causing activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity. Testing of residual oils for mutation-causing and cancer-causing potential has shown negative results, supporting the belief that these materials lack biologically active components or the components are largely non-bioavailable due to their molecular size.<br>Toxicity testing has consistently shown that lubricating base oils have low acute toxicities. |
| **ZINC DIALKYL DITHIOPHOSPHATE** | Reproductive effector in rats.<br>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Dithiophosphate alkyl esters is corrosive and toxic to the tissues on skin or oral exposure depending on its concentration. Symptoms included diarrhoea, skin and gastrointestinal irritation, lethargy, reduced food intake, staining about the nose and eye; occasionally, there was drooping of the eyelid, hair standing up, inco-ordination and salivation. Toxicity is reduced following inhalation (due to vapour pressure and high viscosity). It may produce reproductive, developmental and genetic toxicity on experimental animals, but no substantive data is available to establish effect on humans. |

| | | | |
|---|---|---|---|
| **Acute Toxicity** | ✗ | **Carcinogenicity** | ✗ |
| **Skin Irritation/Corrosion** | ✗ | **Reproductivity** | ✗ |
| **Serious Eye Damage/Irritation** | ✗ | **STOT - Single Exposure** | ✗ |
| **Respiratory or Skin sensitisation** | ✗ | **STOT - Repeated Exposure** | ✗ |
| **Mutagenicity** | ✗ | **Aspiration Hazard** | ✗ |

***Legend:*** ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

## SECTION 12 Ecological information

### Toxicity

**Premium Hydraulic Oil**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**mineral oil**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**zinc dialkyl dithiophosphate**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 48h | Crustacea | <1mg/l | 1 |
| EC50 | 96h | Algae or other aquatic plants | 1-5mg/l | 1 |
| EC50 | 48h | Crustacea | 11.5mg/l | 1 |

***Legend:*** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| | No Data available for all ingredients | No Data available for all ingredients |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| zinc dialkyl dithiophosphate | LOW (BCF = 100) |

### Mobility in soil

**Continued...**

| Ingredient | Mobility |
|---|---|
| | No Data available for all ingredients |

## SECTION 13 Disposal considerations

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ‣ Consult manufacturer for recycling options and recycle where possible .<br>‣ Consult State Land Waste Management Authority for disposal.<br>‣ Incinerate residue at an approved site.<br>‣ Recycle containers if possible, or dispose of in an authorised landfill. |

## SECTION 14 Transport information

### Labels Required

| | |
|---|---|
| **Marine Pollutant** | NO |
| **HAZCHEM** | Not Applicable |

### Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---|---|
| mineral oil | Not Available |
| zinc dialkyl dithiophosphate | Not Available |

### Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|---|---|
| mineral oil | Not Available |
| zinc dialkyl dithiophosphate | Not Available |

## SECTION 15 Regulatory information

### Safety, health and environmental regulations / legislation specific for the substance or mixture

**mineral oil is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

**zinc dialkyl dithiophosphate is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4
Australian Inventory of Industrial Chemicals (AIIC)
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | No (mineral oil) |
| Canada - DSL | No (mineral oil) |
| Canada - NDSL | No (mineral oil) |

**Continued...**

| National Inventory | Status |
|---|---|
| China - IECSC | No (mineral oil) |
| Europe - EINEC / ELINCS / NLP | No (mineral oil) |
| Japan - ENCS | Yes |
| Korea - KECI | No (mineral oil) |
| New Zealand - NZIoC | No (mineral oil) |
| Philippines - PICCS | No (mineral oil) |
| USA - TSCA | No (mineral oil) |
| Taiwan - TCSI | No (mineral oil) |
| Mexico - INSQ | No (mineral oil) |
| Vietnam - NCI | No (mineral oil) |
| Russia - FBEPH | No (mineral oil) |
| ***Legend:*** | *Yes = All CAS declared ingredients are on the inventory*<br>*No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.* |

## SECTION 16 Other information

| | |
|---|---|
| **Revision Date** | 23/12/2022 |
| **Initial Date** | 28/09/2001 |

### SDS Version Summary

| Version | Date of Update | Sections Updated |
|---|---|---|
| 8.1 | 01/11/2019 | One-off system update. NOTE: This may or may not change the GHS classification |
| 9.1 | 23/12/2022 | Classification review due to GHS Revision change. |

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory

**Continued...**

NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances



**end of SDS**

## 1. IDENTIFICATION

| | |
|---|---|
| **Product Name** | **Aluminium Chlorohydrate Solution** |
| **Other Names** | No Data Available |
| **Uses** | Specialist coagulant in the treatment of water and wastewater; other miscellaneous applications. |
| **Chemical Family** | No Data Available |
| **Chemical Formula** | Al2(OH)5Cl.2.3H2O |
| **Chemical Name** | Aluminium chloride, basic, aqueous solution |
| **Product Description** | Water solution of polymeric aluminium compounds. This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible. |

### Contact Details of the Supplier of this Safety Data Sheet

| Organisation | Location | Telephone |
|---|---|---|
| Redox Ltd | 2 Swettenham Road<br>Minto NSW 2566<br>Australia | +61-2-97333000 |
| Redox Ltd | 11 Mayo Road<br>Wiri Auckland 2104<br>New Zealand | +64-9-2506222 |
| Redox Inc. | 3960 Paramount Boulevard<br>Suite 107<br>Lakewood CA 90712<br>USA | +1-424-675-3200 |
| Redox Chemicals Sdn Bhd | Suite 13A.03, Menara Summit<br>Persiaran Kewajipan USJ1<br>47600 UEP Subang Jaya<br>Selangor, Malaysia | +60-3-5614-2111 |

### Emergency Contact Details

*For emergencies only; DO NOT contact these companies for general product advice.*

| Organisation | Location | Telephone |
|---|---|---|
| Poisons Information Centre | Australia – Westmead NSW | 1800-251525<br>131126 |
| Chemcall | Australia | 1800-127406<br>+64-4-9179888 |
| Chemcall | Malaysia | +64-4-9179888 |
| National Poison Centre | Malaysia | +60-4-6536-999 |
| Chemcall | New Zealand | 0800-243622<br>+64-4-9179888 |
| National Poisons Centre | New Zealand | 0800-764766 |
| CHEMTREC | USA & Canada | 1-800-424-9300 CN723420<br>+1-703-527-3887 |

## 2. HAZARD IDENTIFICATION

| | |
|---|---|
| **Poisons Schedule (Aust)** | Not Scheduled |

### Globally Harmonised System

| | | | |
|---|---|---|---|
| **Hazard Classification** | | | NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) |
| **Precautionary Statements** | General | **P102** | Keep out of reach of children. |
| | Prevention | **P262** | Do not get in eyes, on skin, or on clothing. |
| | | **P281** | Use personal protective equipment as required. |
| | Response | **P302 + P352** | IF ON SKIN: Wash with plenty of water. |
| | | **P337 + P313** | If eye irritation persists: Get medical advice. |
| | | **P332 + P313** | If skin irritation occurs: Get medical advice. |
| | | **P362** | Take off contaminated clothing. |
| | | **P305 + P351 + P338** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | | **P301 + P330 + P331** | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| | | **P370 + P378** | In case of fire: Use carbon dioxide (CO2), dry chemical, foam or water fog for extinction. |
| | Storage | **P403 + P233** | Store in a well-ventilated place. Keep container tightly closed. |
| | Disposal | **P501** | Dispose of contents/container in accordance with local / regional / national / international regulations. |

### National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

### Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

| | |
|---|---|
| **Hazard Classification** | NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations |

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

***Ingredients***

| Chemical Entity | Formula | CAS Number | Proportion |
|---|---|---|---|
| Aluminium chloride hydroxide (Al2Cl(OH)5) | Al2Cl(OH)5 | 12042-91-0 | 10 - 60 % |
| Water | H2O | 7732-18-5 | Balance % |

## 4. FIRST AID MEASURES

***Description of necessary measures according to routes of exposure***

| | |
|---|---|
| **Swallowed** | IF SWALLOWED: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice. |
| **Eye** | IF IN EYES: Immediately flush eyes with lukewarm running water for several minutes, holding eyelids open and |

| | |
|---|---|
| | occasionally lifting the upper and lower lids. Take care not to rinse contaminated water into the unaffected eye or onto the face. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Get immediate medical advice. *Suitable emergency eye wash facility should be immediately available. |
| **Skin** | IF ON SKIN: Remove contaminated clothing and shoes immediately. Wash skin gently with warm running water (and non-abrasive soap, if necessary) for at least 15 minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse or discard. *Suitable emergency safety shower facility should be immediately available. |
| **Inhaled** | IF INHALED: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist. |
| **Advice to Doctor** | Treat symptomatically.<br>*Most important symptoms and effects, both acute and delayed: No information available.<br>*Indication of any immediate medical attention and special treatment needed: No information available. |
| **Medical Conditions Aggravated by Exposure** | No information available. |

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **General Measures** | If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. If a significant quantity of this product is involved in a fire, call the fire brigade. |
| **Flammability Conditions** | Not combustible; Does not burn. |
| **Extinguishing Media** | If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder). |
| **Fire and Explosion Hazard** | The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both) fire gases. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. |
| **Hazardous Products of Combustion** | Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. This will only occur after heating to dryness. Fire decomposition products from this product are likely to be irritating if inhaled. May form Hydrogen chloride gas, other compounds of Chlorine and Aluminium compounds. |
| **Special Fire Fighting Instructions** | Contain runoff from fire control or dilution water - Runoff may pollute waterways. |
| **Personal Protective Equipment** | Wear positive pressure self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection. |
| **Flash Point** | No Data Available |
| **Lower Explosion Limit** | No Data Available |
| **Upper Explosion Limit** | No Data Available |
| **Auto Ignition Temperature** | No Data Available |
| **Hazchem Code** | No Data Available |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **General Response Procedure** | Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing. |
| **Clean Up Procedures** | Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13). Hose final trace residues to drain. |
| **Containment** | Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. |
| **Decontamination** | This product can be neutralised with alkali to form a mixture of aluminium hydroxide and the chloride salt of the alkali. The resulting mixture is non-hazardous providing the resulting pH is between roughly 5 and 10. |
| **Environmental Precautionary Measures** | Prevent spillage from entering drains or water courses. If contamination of crops, sewers or waterways has occurred advise local emergency services<br>*Spillage into waterways will result in some lowering of the pH and the formation of aluminium hydroxide, which has a |

| | |
|---|---|
| | very low toxicity. |
| **Evacuation Criteria** | Spill or leak area should be isolated immediately. Keep unauthorised personnel away. |
| **Personal Precautionary Measures** | Wear full protective clothing, including eye/face protection (see SECTION 8). If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. |

## 7. HANDLING AND STORAGE

| | |
|---|---|
| **Handling** | Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Avoid contact or contamination of product with incompatible materials. |
| **Storage** | Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10). Some liquid preparations settle or separate on standing and may require stirring before use. |
| **Container** | Keep in the original container. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|---|---|
| **General** | No specific exposure standards are available for this product. For Aluminium, soluble salts (as Al):<br>- Safe Work Australia Exposure Standard: TWA = 2 mg/m3. |
| **Exposure Limits** | No Data Available |
| **Biological Limits** | No information available. |
| **Engineering Measures** | A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. |
| **Personal Protection Equipment** | - Respiratory protection: Usually, no respirator is necessary when using this product. However, for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems, we recommend that you use a respirator (refer to AS/NZS 1715 & 1716).<br>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Protective glasses or goggles.<br>- Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. rubber, PVC.<br>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious clothes and, preferably, apron. |
| **Special Hazards Precaustions** | No information available. |
| **Work Hygienic Practices** | Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Thoroughly launder protective clothing before storage or re-use.<br>*Advise laundry of nature of contamination when sending contaminated clothing to laundry. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Liquid |
| **Odour** | Faint, characteristic |
| **Colour** | Clear |
| **pH** | >=2.75 (as supplied) at 25°C |
| **Vapour Pressure** | 2.37 kPa (Water vapour pressure) (@ 20 °C) |
| **Relative Vapour Density** | As for water |

| | |
|---|---|
| **Boiling Point** | approx. 100 - 110 °C |
| **Melting Point** | No Data Available |
| **Freezing Point** | <0 °C |
| **Solubility** | Completely soluble in water |
| **Specific Gravity** | >=1.30 |
| **Flash Point** | No Data Available |
| **Auto Ignition Temp** | No Data Available |
| **Evaporation Rate** | As for water |
| **Bulk Density** | No Data Available |
| **Corrosion Rate** | No Data Available |
| **Decomposition Temperature** | No Data Available |
| **Density** | No Data Available |
| **Specific Heat** | No Data Available |
| **Molecular Weight** | No Data Available |
| **Net Propellant Weight** | No Data Available |
| **Octanol Water Coefficient** | No Data Available |
| **Particle Size** | No Data Available |
| **Partition Coefficient** | No Data Available |
| **Saturated Vapour Concentration** | No Data Available |
| **Vapour Temperature** | No Data Available |
| **Viscosity** | No Data Available |
| **Volatile Percent** | approx. 50% (Water component) |
| **VOC Volume** | No Data Available |
| **Additional Characteristics** | Prolonged drying leads to product change. |
| **Potential for Dust Explosion** | Not applicable. |
| **Fast or Intensely Burning Characteristics** | No information available. |
| **Flame Propagation or Burning Rate of Solid Materials** | No information available. |
| **Non-Flammables That Could Contribute Unusual Hazards to a Fire** | No information available. |
| **Properties That May Initiate or Contribute to Fire Intensity** | Not combustible; Does not burn. |
| **Reactions That Release Gases or Vapours** | Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. This will only occur after heating to dryness. May form Hydrogen chloride gas, other compounds of Chlorine and Aluminium compounds. |
| **Release of Invisible Flammable Vapours and Gases** | No information available. |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **General Information** | No information available. |
| **Chemical Stability** | This product is unlikely to react or decompose under normal storage conditions. |
| **Conditions to Avoid** | This product should be kept in a cool place, preferably below 30°C. |
| **Materials to Avoid** | No particular incompatibilities. |
| **Hazardous Decomposition Products** | Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. This will only occur after heating to dryness. May from oxides of carbon and nitrogen, smoke and other toxic fumes. |

| | |
|---|---|
| **Hazardous Polymerisation** | This product will not undergo polymerisation reactions. |

## 11. TOXICOLOGICAL INFORMATION

| | |
|---|---|
| **General Information** | Information on toxicological effects:<br>- Acute toxicity: No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label.<br>- Skin corrosion/irritation: Not classified.<br>- Eye damage/irritation: Not classified.<br>- Respiratory/skin sensitisation: Not classified.<br>- Germ cell mutagenicity: Not classified.<br>- Carcinogenicity: Not classified.<br>- Reproductive toxicity: Not classified.<br>- STOT (single exposure): No information available.<br>- STOT (repeated exposure): Not classified.<br>- Aspiration toxicity: No information available.<br>Information on likely routes of exposure:<br>- Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.<br>- Eye contact: May be an eye irritant.<br>- Skin contact: Contact with skin may result in irritation.<br>- Inhalation: Material is an irritant to mucous membranes and respiratory tract.<br>- Chronic effects: No information available. |
| **Carcinogen Category** | None |

## 12. ECOLOGICAL INFORMATION

| | |
|---|---|
| **Ecotoxicity** | This material has been classified as not hazardous for acute aquatic exposure. Acute toxicity estimate (based on ingredients): > 100 mg/L.<br>This material has been classified as not hazardous for chronic aquatic exposure. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log Kow < 4. |
| **Persistence/Degradability** | Not a persistent pollutant; can cause coagulation of solids in aqueous suspension, especially when highly diluted by the water in which the solids are suspended. When diluted by copious quantities of water, this product will hydrolyse rapidly to form aluminium hydroxide, which can be expected to become a part of the natural soil profile if not recovered. When not highly diluted with water, this product may be slow to hydrolyse and may form a mixture of partially soluble aluminium species and heavy floc of aluminium hydroxide. |
| **Mobility** | No information available. |
| **Environmental Fate** | This product is unlikely to adversely effect the environment. |
| **Bioaccumulation Potential** | No information available. |
| **Environmental Impact** | No Data Available |

## 13. DISPOSAL CONSIDERATIONS

| | |
|---|---|
| **General Information** | Dispose of contents/container in accordance with local/regional/national regulations. Containers should be emptied as completely as practical before disposal. If possible, recycle product and containers; If this is not practical, send to a commercial waste disposal site. |
| **Special Precautions for Land Fill** | This product can be neutralised with alkali to form a mixture of aluminium hydroxide and the chloride salt of the alkali. The resulting mixture is non-hazardous providing the resulting pH is between roughly 5 and 10. |

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)
ADG Code

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

### Land Transport (Malaysia)
ADR Code

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

### Land Transport (New Zealand)
NZS5433

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

### Land Transport (United States of America)
US DOT

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| | No Data Available |
| **UN Number** | No Data Available |

| | |
|---|---|
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for LAND transport. |

### Sea Transport
IMDG Code

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **EMS** | No Data Available |
| **Marine Pollutant** | No |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for SEA transport. |

### Air Transport
IATA DGR

| | |
|---|---|
| **Proper Shipping Name** | Aluminium Chlorohydrate Solution |
| **Class** | No Data Available |
| **Subsidiary Risk(s)** | No Data Available |
| **UN Number** | No Data Available |
| **Hazchem** | No Data Available |
| **Pack Group** | No Data Available |
| **Special Provision** | No Data Available |
| **Comments** | NON-DANGEROUS GOODS: Not regulated for AIR transport. |

### National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

| | |
|---|---|
| **Dangerous Goods Classification** | NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) |

## 15. REGULATORY INFORMATION

| | |
|---|---|
| **General Information** | No Data Available |
| **Poisons Schedule (Aust)** | Not Scheduled |

### Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

| | |
|---|---|
| **Approval Code** | Not Hazardous |

### National/Regional Inventories

| | |
|---|---|
| **Australia (AIIC)** | Listed |
| **Canada (DSL)** | Listed |
| **Canada (NDSL)** | Not Listed |
| **China (IECSC)** | Listed |
| **Europe (EINECS)** | Listed |
| **Europe (REACh)** | Not Determined |
| **Japan (ENCS/METI)** | Listed |
| **Korea (KECI)** | Listed |
| **Malaysia (List of Classified Substances)** | Not Listed |
| **New Zealand (NZIoC)** | Listed |
| **Philippines (PICCS)** | Listed |
| **Taiwan (TCSI)** | Listed |
| **USA (TSCA)** | Listed |
| **Mexico (INSQ)** | Listed |

## 16. OTHER INFORMATION

| | |
|---|---|
| **Related Product Codes** | ALCHHY5000, ALCHHY5001, ALCHHY5100, ALCHHY5200, ALCHHY5500, ALCHHY6000, ALCHHY6200, ALCHHY6201, ALCHHY8000, ALCHHY8001, ALCHHY8500, ALCHHY8502 |
| **Revision** | 3 |
| **Revision Date** | 16 Apr 2024 |
| **Key/Legend** | < Less Than<br>> Greater Than<br>**AICS** Australian Inventory of Chemical Substances<br>**atm** Atmosphere<br>**CAS** Chemical Abstracts Service (Registry Number)<br>**$cm^2$** Square Centimetres<br>**CO2** Carbon Dioxide<br>**COD** Chemical Oxygen Demand<br>**deg C (°C)** Degrees Celcius<br>**EPA (New Zealand)** Environmental Protection Authority of New Zealand<br>**deg F (°F)** Degrees Farenheit<br>**g** Grams<br>**$g/cm^3$** Grams per Cubic Centimetre<br>**g/l** Grams per Litre<br>**HSNO** Hazardous Substance and New Organism<br>**IDLH** Immediately Dangerous to Life and Health<br>**immiscible** Liquids are insoluable in each other.<br>**inHg** Inch of Mercury<br>**inH2O** Inch of Water<br>**K** Kelvin<br>**kg** Kilogram<br>**$kg/m^3$** Kilograms per Cubic Metre<br>**lb** Pound<br>**LC50** LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% |

(one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
**LD50** LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
**ltr** or **L** Litre
**$m^3$** Cubic Metre
**mbar** Millibar
**mg** Milligram
**mg/24H** Milligrams per 24 Hours
**mg/kg** Milligrams per Kilogram
**$mg/m^3$** Milligrams per Cubic Metre
**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
**mm** Millimetre
**mmH2O** Millimetres of Water
**mPa.s** Millipascals per Second
**N/A** Not Applicable
**NIOSH** National Institute for Occupational Safety and Health
**NOHSC** National Occupational Heath and Safety Commission
**OECD** Organisation for Economic Co-operation and Development
**Oz** Ounce
**PEL** Permissible Exposure Limit
**Pa** Pascal
**ppb** Parts per Billion
**ppm** Parts per Million
**ppm/2h** Parts per Million per 2 Hours
**ppm/6h** Parts per Million per 6 Hours
**psi** Pounds per Square Inch
**R** Rankine
**RCP** Reciprocal Calculation Procedure
**STEL** Short Term Exposure Limit
**TLV** Threshold Limit Value
**tne** Tonne
**TWA** Time Weighted Average
**ug/24H** Micrograms per 24 Hours
**UN** United Nations
**wt** Weight

# Exxon Mobil Cat DEO-ULS 15W-40

## Caterpillar

Chemwatch Hazard Alert Code: **1**

Chemwatch: **4122066**
Version No: **5.1**
Material Safety Data Sheet according to NOHSC and ADG requirements

Issue Date: **03/30/2022**
Print Date: **07/20/2022**
L.Local.AUS.EN

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

### Product Identifier

| | |
|---|---|
| **Product name** | Exxon Mobil Cat DEO-ULS 15W-40 |
| **Chemical Name** | Not Applicable |
| **Synonyms** | Not Available |
| **Chemical formula** | Not Applicable |
| **Other means of identification** | Not Available |

### Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| **Relevant identified uses** | Diesel engine oil. |

### Details of the supplier of the safety data sheet

| **Registered company name** | **Caterpillar** | **Thermo Fisher Scientific** | **EXXON COMPANY.** |
|---|---|---|---|
| **Address** | 1 Caterpillar Drive Tullamarine VIC 3043 Australia | 5 Caribbean Drive Scoresby VIC 3179 Australia | PO Box 2180 Houston TX 77252-2180 United States |
| **Telephone** | +61 3 9953 9333 | +61 1300 735 292\|+61 3 9757 4486 | +1 713 6563424 |
| **Fax** | +61 3 9335 3366 | +61 1800 067 639 | Not Available |
| **Website** | Not Available | http://www.thermofisher.com.au/ | Not Available |
| **Email** | Not Available | auinfo@thermofisher.com | sds.uk@exxonmobil.com |

| | |
|---|---|
| **Registered company name** | **ExxonMobil** |
| **Address** | 3225 Gallows Road Fairfax VA 22037 United States |
| **Telephone** | Not Available |
| **Fax** | Not Available |
| **Website** | http://www.host2.exxonmobil.com/psims/psims.aspx |
| **Email** | Not Available |

### Emergency telephone number

| **Association / Organisation** | **Caterpillar** | **Thermo Fisher Scientific** | **EXXON COMPANY.** |
|---|---|---|---|
| **Emergency telephone numbers** | 13 11 26 | 03 9757 4559 | +1 218 8343296 |
| **Other emergency telephone numbers** | Not Available | Not Available | Not Available |

| | |
|---|---|
| **Association / Organisation** | **CHEMWATCH EMERGENCY RESPONSE** |
| **Emergency telephone numbers** | +61 1800 951 288 |
| **Other emergency telephone numbers** | +61 3 9573 3188 |

**Once connected and if the message is not in your prefered language then please dial 01**

## SECTION 2 Hazards identification

### Classification of the substance or mixture

**Page 1 continued...**

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.**

**ChemWatch Hazard Ratings**

| | Min | Max |
|---|---|---|
| Flammability | 1 | |
| Toxicity | 0 | |
| Body Contact | 1 | |
| Reactivity | 1 | |
| Chronic | 0 | |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|---|---|
| **Poisons Schedule** | Not Applicable |
| **Risk Phrases [1]** | **R51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| ***Legend:*** | *1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI* |

Relevant risk statements are found in section 2

| | |
|---|---|
| **Indication(s) of danger** | N |

**Safety advice**

| | |
|---|---|
| **S02** | Keep out of reach of children. |
| **S29** | Do not empty into drains. |
| **S35** | This material and its container must be disposed of in a safe way. |
| **S40** | To clean the floor and all objects contaminated by this material, use water and detergent. |
| **S56** | Dispose of this material and its container at hazardous or special waste collection point. |
| **S57** | Use appropriate container to avoid environmental contamination. |
| **S61** | Avoid release to the environment. Refer to special instructions/Safety data sheets. |

## Other hazards

Cumulative effects may result following exposure*.

May produce discomfort of the eyes and skin*.

Limited evidence of a carcinogenic effect*.

Possible skin sensitizer*.

Not Applicable

## SECTION 3 Composition / information on ingredients

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No | %[weight] | Name |
|---|---|---|
| 64742-65-0. | 1-<5 | paraffinic distillate, heavy, solvent-dewaxed (severe) |
| 64742-56-9. | 1-<5 | paraffinic distillate, light, solvent-dewaxed (severe) |
| 125643-61-0 | 1-<5 | C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate |
| 113706-15-3 | 0.1-<1 | zinc O,O-bis(C3-14-alkyl esters) dithiophosphate |
| 1190625-94-5 | 0.1-<1 | (C14-16-18)alkylphenol |
| 64742-54-7. | NotSpec | paraffinic distillate, heavy, hydrotreated (severe) |

| | |
|---|---|
| ***Legend:*** | *1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 -* |

**Continued...**

| | |
|---|---|
| | *Annex VI; 4. Classification drawn from C&L; * EU IOELVs available* |

## SECTION 4 First aid measures

### Description of first aid measures

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Wash out immediately with fresh running water.<br>▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.<br>▸ Seek medical attention without delay; if pain persists or recurs seek medical attention.<br>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin contact occurs:<br>▸ Immediately remove all contaminated clothing, including footwear.<br>▸ Flush skin and hair with running water (and soap if available).<br>▸ Seek medical attention in event of irritation. |
| **Inhalation** | ▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area.<br>▸ Other measures are usually unnecessary. |
| **Ingestion** | ▸ Immediately give a glass of water.<br>▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor. |

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 Firefighting measures

### Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### Special hazards arising from the substrate or mixture

| | |
|---|---|
| **Fire Incompatibility** | ▸ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

### Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | ▸ Alert Fire Brigade and tell them location and nature of hazard.<br>▸ Wear full body protective clothing with breathing apparatus.<br>▸ Prevent, by any means available, spillage from entering drains or water course.<br>▸ Use water delivered as a fine spray to control fire and cool adjacent area. |
| **Fire/Explosion Hazard** | ▸ Combustible.<br>▸ Slight fire hazard when exposed to heat or flame.<br>▸ Heating may cause expansion or decomposition leading to violent rupture of containers.<br>▸ On combustion, may emit toxic fumes of carbon monoxide (CO).<br>Combustion products include:<br>carbon dioxide ($CO_2$)<br>phosphorus oxides (POx)<br>sulfur oxides (SOx)<br>other pyrolysis products typical of burning organic material.<br>May emit poisonous fumes.<br>May emit corrosive fumes.<br>**CARE**: Water in contact with hot liquid may cause foaming and a steam explosion with wide scattering of hot oil and possible severe burns. Foaming may cause overflow of containers and may result in possible fire. |
| **HAZCHEM** | Not Applicable |

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

| | |
|---|---|
| **Minor Spills** | ▸ Remove all ignition sources.<br>▸ Clean up all spills immediately.<br>▸ Avoid breathing vapours and contact with skin and eyes.<br>▸ Control personal contact with the substance, by using protective equipment. |

**Continued...**

| | |
|---|---|
| **Major Spills** | Moderate hazard.<br>▸ Clear area of personnel and move upwind.<br>▸ Alert Fire Brigade and tell them location and nature of hazard.<br>▸ Wear breathing apparatus plus protective gloves. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

| | |
|---|---|
| **Safe handling** | Hydrogen sulfide (H2S or Sour Gas) may be present when loading and unloading transport vessels. Stay upwind and away from newly opened hatches and allow to vent thoroughly before handling material. Steam may be used to vent hatches. Keep all sources of ignition away from loading area.<br>▸ **DO NOT** allow clothing wet with material to stay in contact with skin<br>▸ Avoid all personal contact, including inhalation.<br>▸ Wear protective clothing when risk of exposure occurs.<br>▸ Use in a well-ventilated area.<br>▸ Prevent concentration in hollows and sumps. |
| **Other information** | ▸ Store in original containers.<br>▸ Keep containers securely sealed.<br>▸ No smoking, naked lights or ignition sources.<br>▸ Store in a cool, dry, well-ventilated area. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | ▸ Metal can or drum<br>▸ Packaging as recommended by manufacturer.<br>▸ Check all containers are clearly labelled and free from leaks. |
| **Storage incompatibility** | ▸ Avoid reaction with oxidising agents |

## SECTION 8 Exposure controls / personal protection

### Control parameters

**Occupational Exposure Limits (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|
| Australia Exposure Standards | paraffinic distillate, heavy, solvent-dewaxed (severe) | Oil mist, refined mineral | 5 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | paraffinic distillate, light, solvent-dewaxed (severe) | Oil mist, refined mineral | 5 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | paraffinic distillate, heavy, hydrotreated (severe) | Oil mist, refined mineral | 5 mg/m3 | Not Available | Not Available | Not Available |

**Emergency Limits**

| Ingredient | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|
| paraffinic distillate, heavy, solvent-dewaxed (severe) | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |
| paraffinic distillate, light, solvent-dewaxed (severe) | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |
| paraffinic distillate, heavy, hydrotreated (severe) | 140 mg/m3 | 1,500 mg/m3 | 8,900 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| paraffinic distillate, heavy, solvent-dewaxed (severe) | 2,500 mg/m3 | Not Available |
| paraffinic distillate, light, solvent-dewaxed (severe) | 2,500 mg/m3 | Not Available |
| C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate | Not Available | Not Available |

**Continued...**

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | Not Available | Not Available |
| (C14-16-18)alkylphenol | Not Available | Not Available |
| paraffinic distillate, heavy, hydrotreated (severe) | 2,500 mg/m3 | Not Available |

**Occupational Exposure Banding**

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|---|---|
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | E | ≤ 0.01 mg/m³ |
| (C14-16-18)alkylphenol | E | ≤ 0.01 mg/m³ |
| ***Notes:*** | *Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.* | |

**MATERIAL DATA**

NOTE L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. European Union (EU) List of harmonised classification and labelling hazardous substances, Table 3.1, Annex VI, Regulation (EC) No 1272/2008 (CLP) - up to the latest ATP

## Exposure controls

| | |
|---|---|
| **Appropriate engineering controls** | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job activity or process is done to reduce the risk.<br>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. |
| **Personal protection** |  |
| **Eye and face protection** | ‣ Safety glasses with side shields.<br>‣ Chemical goggles.<br>‣ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ‣ Wear chemical protective gloves, e.g. PVC.<br>‣ Wear safety footwear or safety gumboots, e.g. Rubber<br>**NOTE:**<br>‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.<br>‣ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.<br>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.<br>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.<br>Personal hygiene is a key element of effective hand care. |
| **Body protection** | See Other protection below |
| **Other protection** | ‣ Overalls.<br>‣ P.V.C apron.<br>‣ Barrier cream.<br>‣ Skin cleansing cream. |

## Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|---|---|---|---|
| up to 10 x ES | A-AUS P2 | - | A-PAPR-AUS / Class 1 P2 |

**Continued...**

| | | | |
|---|---|---|---|
| up to 50 x ES | - | A-AUS / Class 1 P2 | - |
| up to 100 x ES | - | A-2 P2 | A-PAPR-2 P2 ^ |

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Brown liquid with characteristic odour; does not mix with water. |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 0.875 |
| **Odour** | Characteristic | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Available |
| **pH (as supplied)** | Not Applicable | **Decomposition temperature (°C)** | Not Available |
| **Melting point / freezing point (°C)** | -27 (Pouir pt) | **Viscosity (cSt)** | 109 @40C |
| **Initial boiling point and boiling range (°C)** | >316 | **Molecular weight (g/mol)** | Not Applicable |
| **Flash point (°C)** | >215 | **Taste** | Not Available |
| **Evaporation rate** | Not Available | **Explosive properties** | Not Available |
| **Flammability** | Not Applicable | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | ~7 | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | ~0.9 | **Volatile Component (%vol)** | Not Available |
| **Vapour pressure (kPa)** | <0.013 @20C | **Gas group** | Not Available |
| **Solubility in water** | Immiscible | **pH as a solution (Not Available%)** | Not Applicable |
| **Vapour density (Air = 1)** | >2 | **VOC g/L** | Not Available |

## SECTION 10 Stability and reactivity

| | |
|---|---|
| **Reactivity** | See section 7 |
| **Chemical stability** | - Unstable in the presence of incompatible materials.<br>- Product is considered stable.<br>- Hazardous polymerisation will not occur. |
| **Possibility of hazardous reactions** | See section 7 |
| **Conditions to avoid** | See section 7 |
| **Incompatible materials** | See section 7 |
| **Hazardous decomposition products** | See section 5 |

## SECTION 11 Toxicological information

### Information on toxicological effects

| | |
|---|---|
| **Inhaled** | The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives |

**Continued...**

| | |
|---|---|
| | using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.<br>Inhalation of oil droplets/ aerosols may cause discomfort and may produce chemical pneumonitis. |
| **Ingestion** | The material has **NOT** been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). |
| **Skin Contact** | Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.<br><br>Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. |
| **Eye** | Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.<br>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur. |
| **Chronic** | Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals.<br>Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma.<br>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.<br>On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. |

| | | |
|---|---|---|
| **Exxon Mobil Cat DEO-ULS 15W-40** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |
| **paraffinic distillate, heavy, solvent-dewaxed (severe)** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >2000 mg/kg[2] | Eye: no adverse effect observed (not irritating)[1] |
| | Inhalation(Rat) LC50; 2.18 mg/l4h[2] | Skin: no adverse effect observed (not irritating)[1] |
| | Oral (Rat) LD50; >5000 mg/kg[2] | |
| **paraffinic distillate, light, solvent-dewaxed (severe)** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >2000 mg/kg[2] | Eye: no adverse effect observed (not irritating)[1] |
| | Inhalation(Rat) LC50; 2.18 mg/l4h[2] | Skin: no adverse effect observed (not irritating)[1] |
| | Oral (Rat) LD50; >5000 mg/kg[2] | |
| **C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >2000 mg/kg[1] | Eye (rabbit: non-irritating * |
| | Oral (Rat) LD50; >200 mg/kg[2] | Skin (rat): non-irritating * |
| **zinc O,O-bis(C3-14-alkyl esters) dithiophosphate** | **TOXICITY** | **IRRITATION** |
| | dermal (rat) LD50: >5000 mg/kg[2] | Eye: adverse effect observed (irritating)[1] |
| | Inhalation(Rat) LC50; >0.5 mg/l4h[1] | Skin: adverse effect observed (irritating)[1] |
| | Oral (Rat) LD50; >2000 mg/kg[2] | |
| **(C14-16-18)alkylphenol** | **TOXICITY** | **IRRITATION** |
| | Not Available | Not Available |

**Continued...**

| | | |
|---|---|---|
| **paraffinic distillate, heavy, hydrotreated (severe)** | **TOXICITY** | **IRRITATION** |
| | Dermal (rabbit) LD50: >2000 mg/kg[2] | Eye: no adverse effect observed (not irritating)[1] |
| | Inhalation(Rat) LC50; 2.18 mg/l4h[2] | Skin: no adverse effect observed (not irritating)[1] |
| | Oral (Rat) LD50; >5000 mg/kg[2] | |
| ***Legend:*** | *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances* | |

| | |
|---|---|
| **PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE)** | Studies indicate that normal, branched and cyclic paraffins are absorbed from the mammalian gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length,with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent that iso- or cyclo-paraffins.<br>The major classes of hydrocarbons have been shown to be well absorbed by the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with dietary lipids. The dependence of hydrocarbon absorption on concomitant triglyceride digestion and absorption,is known as the "hydrocarbon continuum hypothesis", and asserts that a series of solubilising phases in the intestinal lumen, created by dietary triglycerides and their digestion products, afford hydrocarbons a route to the lipid phase of the intestinal absorptive cell (enterocyte) membrane. |
| **C7-9 BRANCHED ALKYL-3,5-DI-TERT-BUTYL-4-HYDROXYHYDROCINNAMATE** | Non-sensitising to guinea pig skin * Everspring Chemical MSDS<br>For hindered phenols:<br>Available data shows that acute toxicity of these substances is low.<br>**Mutagenicity.** Data from bacterial reverse mutation assays and *in vitro* and *in vivo* chromosome aberration studies were reviewed. All assays, with and without metabolic activation, were negative. The weight of evidence for mutagenic potential for this category indicates these substances are not mutagenic.<br>**In Vitro Chromosome Aberration Studies.** |
| **ZINC O,O-BIS(C3-14-ALKYL ESTERS) DITHIOPHOSPHATE** | For dithiophosphate alkyl esters and their (zinc) salts:<br>**Acute toxicity:** Dithiophosphate alkyl esters consist of a phosphorodithioic acid structure with alkyl ester substituent groups. The alkyl groups are saturated hydrocarbon chains that vary in length and extent of branching. While corrosive to tissue the esters demonstrate a low concern for acute systemic toxicity. Data on acute mammalian toxicity of zinc dialkyldithiophosphates in highly refined lubricant base oil also indicate a low concern for acute toxicity. |
| **(C14-16-18)ALKYLPHENOL** | The following information refers to contact allergens as a group and may not be specific to this product.<br>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. |
| **PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE) & PARAFFINIC DISTILLATE, LIGHT, SOLVENT-DEWAXED (SEVERE) & ZINC O,O-BIS(C3-14-ALKYL ESTERS) DITHIOPHOSPHATE & (C14-16-18)ALKYLPHENOL** | No significant acute toxicological data identified in literature search. |
| **PARAFFINIC DISTILLATE, HEAVY, SOLVENT-DEWAXED (SEVERE) & PARAFFINIC DISTILLATE, LIGHT, SOLVENT-DEWAXED (SEVERE) & PARAFFINIC DISTILLATE, HEAVY, HYDROTREATED (SEVERE)** | The materials included in the Lubricating Base Oils category are related from both process and physical-chemical perspectives;<br>The potential toxicity of a specific distillate base oil is inversely related to the severity or extent of processing the oil has undergone, since:<br>· The adverse effects of these materials are associated with undesirable components, and<br>· The levels of the undesirable components are inversely related to the degree of processing;<br>· Distillate base oils receiving the same degree or extent of processing will have similar toxicities;<br>· The potential toxicity of *residual base oils* is independent of the degree of processing the oil receives.<br>· The reproductive and developmental toxicity of the distillate base oils is inversely related to the degree of processing.<br>The degree of refining influences the carcinogenic potential of the oils. Whereas mild acid / earth refining processes are inadequate to substantially reduce the carcinogenic potential of lubricant base oils, hydrotreatment and / or solvent extraction methods can yield oils with no carcinogenic potential.<br>Unrefined and mildly refined distillate base oils contain the highest levels of undesirable components, have the largest variation of hydrocarbon molecules and have shown the highest potential carcinogenic and mutagenic activities. Highly and severely refined distillate base oils are produced from unrefined and mildly refined oils by removing or transforming undesirable components. In comparison to unrefined and mildly refined base oils, the highly and severely refined distillate base oils have a smaller range of hydrocarbon molecules and have demonstrated very low mammalian toxicity.<br>Highly and Severely Refined Distillate Base Oils<br>**Acute toxicity:** Multiple studies of the acute toxicity of highly & severely refined base oils have been reported. Irrespective of the crude source or the method or extent of processing, the oral LD50s have been observed to be >5 g/kg (bw) and the dermal LD50s have ranged from >2 to >5g/kg (bw). The LC50 for inhalation toxicity ranged from 2.18 mg/l to> 4 mg/l.<br>When tested for skin and eye irritation, the materials have been reported as “non-irritating” to “moderately irritating”<br>Testing in guinea pigs for sensitization has been negative<br>**Repeat dose toxicity: .** Several studies have been conducted with these oils**.**<br>**The substance is classified by IARC as Group 3:**<br>**NOT classifiable as to its carcinogenicity to humans.** |

**Continued...**

| | |
|---|---|
| | **Evidence of carcinogenicity may be inadequate or limited in animal testing.** |

| | | | |
|---|---|---|---|
| **Acute Toxicity** | ✗ | **Carcinogenicity** | ✗ |
| **Skin Irritation/Corrosion** | ✗ | **Reproductivity** | ✗ |
| **Serious Eye Damage/Irritation** | ✓ | **STOT - Single Exposure** | ✗ |
| **Respiratory or Skin sensitisation** | ✗ | **STOT - Repeated Exposure** | ✗ |
| **Mutagenicity** | ✗ | **Aspiration Hazard** | ✗ |

***Legend:*** ✗ *– Data either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

## SECTION 12 Ecological information

### Toxicity

**Exxon Mobil Cat DEO-ULS 15W-40**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**paraffinic distillate, heavy, solvent-dewaxed (severe)**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| ErC50 | 72h | Algae or other aquatic plants | >1000mg/l | 1 |
| NOEC(ECx) | 504h | Crustacea | >1mg/l | 1 |
| EC50 | 48h | Crustacea | >1000mg/l | 1 |
| EC50 | 96h | Algae or other aquatic plants | >1000mg/l | 1 |

**paraffinic distillate, light, solvent-dewaxed (severe)**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 504h | Crustacea | >1mg/l | 1 |
| EC50 | 48h | Crustacea | >1000mg/l | 1 |

**C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| EC50 | 72h | Algae or other aquatic plants | 3mg/l | Not Available |
| EC50(ECx) | 72h | Algae or other aquatic plants | 3mg/l | Not Available |
| EC50 | 48h | Crustacea | >0.008mg/l | 2 |
| LC50 | 96h | Fish | >74mg/l | Not Available |

**zinc O,O-bis(C3-14-alkyl esters) dithiophosphate**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| NOEC(ECx) | 504h | Crustacea | 0.4mg/l | 2 |
| EC50 | 72h | Algae or other aquatic plants | 2mg/l | 2 |
| EC50 | 96h | Algae or other aquatic plants | 2mg/l | 2 |
| EC50 | 48h | Crustacea | 5.4mg/l | 2 |
| LC50 | 96h | Fish | 46mg/l | 2 |

**(C14-16-18)alkylphenol**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**paraffinic distillate, heavy, hydrotreated (severe)**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| ErC50 | 72h | Algae or other aquatic plants | >1000mg/l | 1 |
| NOEC(ECx) | 504h | Crustacea | >1mg/l | 1 |
| EC50 | 48h | Crustacea | >1000mg/l | 1 |
| EC50 | 96h | Algae or other aquatic plants | >1000mg/l | 1 |

***Legend:*** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

**Continued...**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the
oxygen transfer between the air and the water
Oils of any kind can cause:

- drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility
- lethal effects on fish by coating gill surfaces, preventing respiration
- asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and
- adverse aesthetic effects of fouled shoreline and beaches

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.
**for lubricating oil base stocks:**
**Vapor Pressure** Vapor pressures of lubricating base oils are reported to be negligible. In one study, the experimentally measured vapour pressure of a solvent-dewaxed heavy paraffinic distillate base oil was 1.7 x 10exp-4 Pa . Since base oils are mixtures of C15 to C50 paraffinic, naphthenic, and aromatic hydrocarbon isomers, representative components of those structures were selected to calculate a range of vapor pressures. The estimated vapor pressure values for these selected components of base oils ranged from 4.5 x 10exp-1 Pa to 2 x 10exp-13Pa.
**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | HIGH | HIGH |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | HIGH (LogKOW = 6.0235) |

### Mobility in soil

| Ingredient | Mobility |
|---|---|
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | LOW (KOC = 3509) |

## SECTION 13 Disposal considerations

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Containers may still present a chemical hazard/ danger when empty.<br>▸ Return to supplier for reuse/ recycling if possible.<br>Otherwise:<br>▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.<br>▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product.<br>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.<br>A Hierarchy of Controls seems to be common - the user should investigate:<br>▸ Reduction<br>▸ Reuse<br>▸ Recycling<br>▸ Disposal (if all else fails)<br>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.<br>▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains.<br>▸ It may be necessary to collect all wash water for treatment before disposal.<br>▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.<br>▸ Where in doubt contact the responsible authority.<br>▸ Recycle wherever possible or consult manufacturer for recycling options.<br>▸ Consult State Land Waste Authority for disposal.<br>▸ Bury or incinerate residue at an approved site.<br>▸ Recycle containers if possible, or dispose of in an authorised landfill. |

## SECTION 14 Transport information

**Continued...**

### Labels Required

| | |
|---|---|
| **Marine Pollutant** |  |
| **HAZCHEM** | Not Applicable |

### Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|---|---|
| paraffinic distillate, heavy, solvent-dewaxed (severe) | Not Available |
| paraffinic distillate, light, solvent-dewaxed (severe) | Not Available |
| C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate | Not Available |
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | Not Available |
| (C14-16-18)alkylphenol | Not Available |
| paraffinic distillate, heavy, hydrotreated (severe) | Not Available |

### Transport in bulk in accordance with the ICG Code

| Product name | Ship Type |
|---|---|
| paraffinic distillate, heavy, solvent-dewaxed (severe) | Not Available |
| paraffinic distillate, light, solvent-dewaxed (severe) | Not Available |
| C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate | Not Available |
| zinc O,O-bis(C3-14-alkyl esters) dithiophosphate | Not Available |
| (C14-16-18)alkylphenol | Not Available |
| paraffinic distillate, heavy, hydrotreated (severe) | Not Available |

## SECTION 15 Regulatory information

### Safety, health and environmental regulations / legislation specific for the substance or mixture

**paraffinic distillate, heavy, solvent-dewaxed (severe) is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**paraffinic distillate, light, solvent-dewaxed (severe) is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate is found on the following regulatory lists**

**Continued...**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

**zinc O,O-bis(C3-14-alkyl esters) dithiophosphate is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Australian Inventory of Industrial Chemicals (AIIC)

**(C14-16-18)alkylphenol is found on the following regulatory lists**

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

**paraffinic distillate, heavy, hydrotreated (severe) is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Chemical Footprint Project - Chemicals of High Concern List

Australian Inventory of Industrial Chemicals (AIIC)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

## National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | No ((C14-16-18)alkylphenol) |
| Canada - DSL | No ((C14-16-18)alkylphenol) |
| Canada - NDSL | No (paraffinic distillate, heavy, solvent-dewaxed (severe); paraffinic distillate, light, solvent-dewaxed (severe); C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate; zinc O,O-bis(C3-14-alkyl esters) dithiophosphate; (C14-16-18)alkylphenol; paraffinic distillate, heavy, hydrotreated (severe)) |
| China - IECSC | No ((C14-16-18)alkylphenol) |
| Europe - EINEC / ELINCS / NLP | No (C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate; (C14-16-18)alkylphenol) |
| Japan - ENCS | No (paraffinic distillate, light, solvent-dewaxed (severe); C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate) |
| Korea - KECI | No ((C14-16-18)alkylphenol) |
| New Zealand - NZIoC | No ((C14-16-18)alkylphenol) |
| Philippines - PICCS | No ((C14-16-18)alkylphenol) |
| USA - TSCA | No ((C14-16-18)alkylphenol) |
| Taiwan - TCSI | No ((C14-16-18)alkylphenol) |
| Mexico - INSQ | No (paraffinic distillate, light, solvent-dewaxed (severe); zinc O,O-bis(C3-14-alkyl esters) dithiophosphate; (C14-16-18)alkylphenol) |
| Vietnam - NCI | No ((C14-16-18)alkylphenol) |
| Russia - FBEPH | No (paraffinic distillate, light, solvent-dewaxed (severe); C7-9 branched alkyl-3,5-di-tert-butyl-4-hydroxyhydrocinnamate; zinc O,O-bis(C3-14-alkyl esters) dithiophosphate; (C14-16-18)alkylphenol) |
| ***Legend:*** | *Yes = All CAS declared ingredients are on the inventory*<br>*No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.* |

## SECTION 16 Other information

| | |
|---|---|
| **Revision Date** | 03/30/2022 |
| **Initial Date** | 02/06/2013 |

## SDS Version Summary

| Version | Date of Update | Sections Updated |
|---|---|---|
| 4.1 | 11/01/2019 | One-off system update. NOTE: This may or may not change the GHS classification |
| 5.1 | 03/30/2022 | Appearance, Chronic Health, Classification, Disposal, Environmental, Fire Fighter (extinguishing media), Fire Fighter (fire/explosion hazard), Fire Fighter (fire fighting), Handling Procedure, Ingredients, Physical Properties, Spills (major), Spills (minor), Storage (storage requirement), Storage (suitable container), Use |

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch

**Continued...**

Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

## Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

# SAFETY DATA SHEET

## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT**

**Product Name:** **MOBILTRANS HD 30**
**Product Description:** Base Oil and Additives
**Product Code:** 201520506030
**Intended Use:** Hydraulic fluid, Manual transmission fluid

**COMPANY IDENTIFICATION**

**Supplier:** **East Coast Lubes Pty Ltd (Queensland and Northern Territory)**
A.B.N. 37 117 203 611
Cnr North and Mort Streets
Toowoomba, Queensland 4350 Australia

**24 Hour Emergency Telephone** 1300 131 001

**Supplier General Contact** 1800 069 019

**Supplier:** **Southern Cross Lubes (Victoria and Tasmania, New South Wales and Australian Capital Territory)**
96 Calarco Drive
Derrimut, VIC 3030 Australia

**24 Hour Emergency Telephone** 1300 131 001
**Product Technical Information**
**Supplier General Contact** 1300 466 245
1300 552 861

**Supplier:** **Perkal Pty Ltd Trading as Statewide Oil (Western Australia)**
A.B.N. 43 009 283 363
14 Beete Street
Welshpool, Western Australia 6106 Australia

**24 Hour Emergency Telephone** (8:00am to 4:30pm Mon to Fri) 1300 919 904
**Product Technical Information**
**Supplier General Contact** (08) 9350 6777
(08) 9350 6777

**Supplier:** **Perkal Pty Ltd Trading as Statewide Oil (South Australia)**
A.B.N. 43 009 283 363
6-10 Streiff Rd
Wingfield, South Australia 5013 Australia

**24 Hour Emergency Telephone** (8:00am to 4:30pm Mon to Fri) 1300 919 904
**Product Technical Information**
**Supplier General Contact** (08) 8359 8995
(08) 8359 8995

**Supplier:** **MotorActive**
ABN 15 050 094 650
35 Slough Business Park
Holker Street
Silverwater NSW 2128 Australia

**24 Hour Emergency Telephone** 13 11 26 Poisons Information Centre

**Supplier General Contact** 02 9737 9422

## SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

**Contains:** CALCIUM SULPHONATE May produce an allergic reaction.

**Other hazard information:**

**Physical / Chemical Hazards:**
No significant hazards.

**Health Hazards:**
High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

**Environmental Hazards:**
No significant hazards.

**NOTE:** This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

**Hazardous Substance(s) or Complex Substance(s) required for disclosure**

| Name | CAS# | Concentration* | GHS Hazard Codes |
|---|---|---|---|
| CALCIUM SULPHONATE | 75975-85-8 | 0.1 - < 1% | H317 |
| ZINC ALKARYLDITHIOPHOSPHATE | 11059-65-7 | 1 - < 5% | H402, H412 |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

## SECTION 4 FIRST AID MEASURES

**INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**SKIN CONTACT**

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

**EYE CONTACT**

Flush thoroughly with water. If irritation occurs, get medical assistance.

**INGESTION**

First aid is normally not required. Seek medical attention if discomfort occurs.

**NOTE TO PHYSICIAN**

None

## SECTION 5 FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA**

**Appropriate Extinguishing Media:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

**Inappropriate Extinguishing Media:** Straight streams of water

**FIRE FIGHTING**

**Fire Fighting Instructions:** Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

**Hazardous Combustion Products:** Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

**FLAMMABILITY PROPERTIES**

**Flash Point [Method]:** >218°C (424°F) [ASTM D-92]
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0
**Autoignition Temperature:** N/D

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**PROTECTIVE MEASURES**

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

**SPILL MANAGEMENT**

**Land Spill:** Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

**Water Spill:** Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

**ENVIRONMENTAL PRECAUTIONS**

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## SECTION 7 HANDLING AND STORAGE

**HANDLING**

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

**Static Accumulator:** This material is a static accumulator.

**STORAGE**

The type of container used to store the material may affect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits/standards for materials that can be formed when handling this product:**

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

**Biological limits**

No biological limits allocated.

## ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

## PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:** If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
Particulate
No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:** Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
Nitrile,Viton
No protection is ordinarily required under normal conditions of use.

**Eye Protection:** If contact is likely, safety glasses with side shields are recommended.

**Skin and Body Protection:** Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practise good housekeeping.

**ENVIRONMENTAL CONTROLS**

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

**Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.**

**GENERAL INFORMATION**

**Physical State:** Liquid
**Colour:** Amber
**Odour:** Characteristic
**Odour Threshold:** N/D

**IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION**

**Relative Density (at 15 °C):** 0.893
**Flammability (Solid, Gas):** N/A
**Flash Point [Method]:** >218°C (424°F) [ASTM D-92]
**Flammable Limits (Approximate volume % in air):** LEL: 0.9 UEL: 7.0
**Autoignition Temperature:** N/D
**Boiling Point / Range:** > 316°C (600°F)
**Decomposition Temperature:** N/D
**Vapour Density (Air = 1):** > 2 at 101 kPa
**Vapour Pressure:** < 0.013 kPa (0.1 mm Hg) at 20 ºC
**Evaporation Rate (n-butyl acetate = 1):** N/D
**pH:** N/A
**Log Pow (n-Octanol/Water Partition Coefficient):** > 3.5
**Solubility in Water:** Negligible
**Viscosity:** 100 cSt (100 mm2/sec) at 40 ºC | 11.2 cSt (11.2 mm2/sec) at 100°C
**Oxidizing Properties:** See Hazards Identification Section.

**OTHER INFORMATION**

**Freezing Point:** N/D
**Melting Point:** N/A
**Pour Point:** -24°C (-11°F)
**DMSO Extract (mineral oil only), IP-346:** < 3 %wt

## SECTION 10 STABILITY AND REACTIVITY

**STABILITY:** Material is stable under normal conditions.

**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.

**INCOMPATIBLE MATERIALS:** Strong oxidisers

**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

## SECTION 11 TOXICOLOGICAL INFORMATION

### INFORMATION ON TOXICOLOGICAL EFFECTS

| Hazard Class | Conclusion / Remarks |
|---|---|
| **Inhalation** | |
| Acute Toxicity: No end point data for material. | Minimally Toxic. Based on assessment of the components. |
| Irritation: No end point data for material. | Negligible hazard at ambient/normal handling temperatures. |
| **Ingestion** | |
| Acute Toxicity: No end point data for material. | Minimally Toxic. Based on assessment of the components. |
| **Skin** | |
| Acute Toxicity: No end point data for material. | Minimally Toxic. Based on assessment of the components. |
| Skin Corrosion/Irritation: No end point data for material. | Negligible irritation to skin at ambient temperatures. Based on assessment of the components. |
| **Eye** | |
| Serious Eye Damage/Irritation: No end point data for material. | May cause mild, short-lasting discomfort to eyes. Based on assessment of the components. |
| **Sensitisation** | |
| Respiratory Sensitization: No end point data for material. | Not expected to be a respiratory sensitizer. |
| Skin Sensitization: No end point data for material. | Not expected to be a skin sensitizer. Based on assessment of the components. |
| **Aspiration:** Data available. | Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. |
| **Germ Cell Mutagenicity:** No end point data for material. | Not expected to be a germ cell mutagen. Based on assessment of the components. |
| **Carcinogenicity:** No end point data for material. | Not expected to cause cancer. Based on assessment of the components. |
| **Reproductive Toxicity:** No end point data for material. | Not expected to be a reproductive toxicant. Based on assessment of the components. |
| **Lactation:** No end point data for material. | Not expected to cause harm to breast-fed children. |
| **Specific Target Organ Toxicity (STOT)** | |
| Single Exposure: No end point data for material. | Not expected to cause organ damage from a single exposure. |
| Repeated Exposure: No end point data for material. | Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components. |

### OTHER INFORMATION

**For the product itself:**

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

**Contains:**

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

**IARC Classification:**
**The following ingredients are cited on the lists below:** None.

--REGULATORY LISTS SEARCHED--
1 = IARC 1 2 = IARC 2A 3 = IARC 2B

## SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

**ECOTOXICITY**
Material -- Not expected to be harmful to aquatic organisms.

**MOBILITY**
Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

**PERSISTENCE AND DEGRADABILITY**
**Biodegradation:**
Base oil component -- Expected to be inherently biodegradable

**BIOACCUMULATION POTENTIAL**
Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

## SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**DISPOSAL RECOMMENDATIONS**
Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

**Empty Container Warning** Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## SECTION 14 TRANSPORT INFORMATION

**LAND (ADG)** : Not Regulated for Land Transport

**SEA (IMDG):** Not Regulated for Sea Transport according to IMDG-Code

**Marine Pollutant:** No

**AIR (IATA):** Not Regulated for Air Transport

## SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

**REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS**

**Listed or exempt from listing/notification on the following chemical inventories (May contain substance(s) subject to notification to the EPA Active TSCA inventory prior to import to USA):** AIIC, DSL, ENCS, IECSC, ISHL, KECI, PICCS, TCSI, TSCA

## SECTION 16 OTHER INFORMATION

**KEY TO ABBREVIATIONS AND ACRONYMS:**

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

**KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):**
H317: May cause allergic skin reaction; Skin Sensitisation, Cat 1
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

**THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:**
MotorActive: Section 01: Supplier Mailing Address information was added.
Southern Cross Lubes (Victoria and Tasmania, New South Wales and Australian Capital Territory): Section 01: Supplier Mailing Address information was modified.
Composition: Component Table information was modified.
Section 01: Product Intended Use information was modified.
Section 08: Exposure Limits Table information was deleted.
Section 11: Chronic Tox - Component information was modified.
Section 12: Section 12 Footnote for GHS information was deleted.
Section 16: HCode Key information was modified.

DGN: 2005853DAU (1028663)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA
Contact Point: See Section 1 for Local Contact number

**End of (M)SDS**

# SAFETY DATA SHEET

Version 6.8
Revision Date 11.04.2025
Print Date 12.04.2025

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

### 1.1 Product identifiers

Product name : Hydrochloric acid

Product Number : H1758
Brand : Sigma
CAS-No. : 7647-01-0

### 1.2 Other means of identification

No data available

### 1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

### 1.4 Details of the supplier of the safety data sheet

Company : Merck Life Science Pty Ltd
Ground Floor, Building 1, 885 Mountain Highway
BAYSWATER VIC 3153
AUSTRALIA

Telephone : +61 1800 800 097
E-mail address : customersupport.anz@merckgroup.com

### 1.5 Emergency telephone

Emergency Phone # : Free call (24/7): 1800 862 115
Int'l (24/7): +61 2 9037 2994
(CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 GHS Classification

Corrosive to Metals (Category 1), H290
Skin corrosion/irritation (Category 1), H314
Serious eye damage/eye irritation (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard Statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary Statements

Prevention

| | |
|---|---|
| P261 | Avoid breathing mist or vapors. |
| P264 | Wash skin thoroughly after handling. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |

Response

| | |
|---|---|
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. |
| P304 + P340 + P310 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P390 | Absorb spillage to prevent material damage. |

Storage

| | |
|---|---|
| P403 + P233 | Store in a well-ventilated place. Keep container tightly closed. |

Disposal

| | |
|---|---|
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**2.3 Other hazards** - none

## SECTION 3: Composition/information on ingredients

Substance / Mixture : Mixture

### 3.2 Mixtures

**Hazardous ingredients**

| Component | | Classification | Concentration |
|---|---|---|---|
| **Hydrochloric Acid** | | | |
| CAS-No.<br>EC-No.<br>Index-No. | 7647-01-0<br>231-595-7<br>017-002-00-2 | Met. Corr. 1; Skin Corr./Irrit. 1B; Eye Dam./Irrit. 1; STOT SE 3; H290, H314, H318, H335<br>Concentration limits:<br>>= 0.1 %: Met. Corr. 1, H290; >= 25 %: Skin Corr. 1B, H314; 10 - < 25 %: Skin Irrit. 2, H315; 10 - < 25 %: Eye Irrit. 2, H319; >= 10 %: STOT SE 3, H335; | >= 30 - < 50 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

**General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

### 4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**
For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture
Hydrogen chloride gas
Hydrogen chloride gas
Not combustible.
Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions
Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® $H^+$, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**

No metal containers.
Tightly closed.

**Storage class**

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Hydrochloric Acid | 7647-01-0 | Peak limit | 5 ppm 7.5 mg/m3 | Australia. Workplace Exposure Standards for Airborne Contaminants. |

### 8.2 Exposure controls

**Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Latex gloves
Minimum layer thickness: 0.6 mm
Break through time: 120 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

**Body Protection**
Acid-resistant protective clothing

**Respiratory protection**
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Physical state | liquid |
| b) | Color | light yellow |
| c) | Odor | pungent |
| d) | Melting point/freezing point | -30 °C |
| e) | Initial boiling point and boiling range | > 100 °C - lit. |
| f) | Flammability (solid, gas) | No data available |
| g) | Upper/lower flammability or explosive limits | No data available |
| h) | Flash point | Not applicable |
| i) | Autoignition temperature | Not applicable |
| j) | Decomposition temperature | No data available |
| k) | pH | < 1 at 20 °C |
| l) | Viscosity | Viscosity, kinematic: No data available<br>Viscosity, dynamic: 2.3 mPa.s at 15 °C |
| m) | Water solubility | soluble |
| n) | Partition coefficient: | No data available |

| | | |
|---|---|---|
| | n-octanol/water | |
| o) | Vapor pressure | 227 hPa at 21.1 °C<br>547 hPa at 37.7 °C |
| p) | Density | 1.2 g/cm3 at 25 °C - lit. |
| | Relative density | No data available |
| q) | Relative vapor density | No data available |
| r) | Particle characteristics | No data available |
| s) | Explosive properties | Not classified as explosive. |
| t) | Oxidizing properties | none |

**9.2 Other safety information**
No data available

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**
No data available

**10.4 Conditions to avoid**
no information available

**10.5 Incompatible materials**
Bases, Amines, Alkali metals, Metals, permanganates, for example potassium permanganate, Fluorine, metal acetylides, hexalithium disilicideMetals

**10.6 Hazardous decomposition products**
In the event of fire: see section 5

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Mixture**

**Acute toxicity**
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

**Skin corrosion/irritation**
Remarks: Mixture causes burns.

**Serious eye damage/eye irritation**
Remarks: Mixture causes serious eye damage.
Risk of blindness!

**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
Mixture may cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

## 11.2 Additional Information

RTECS: MW4025000
Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

**Components**

**Hydrochloric Acid**

**Acute toxicity**
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Inhalation: Cough Difficulty in breathing
Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage
Dermal: No data available

**Skin corrosion/irritation**
Skin - reconstructed human epidermis (RhE)
Result: Corrosive
(OECD Test Guideline 431)

**Serious eye damage/eye irritation**
Eyes - Bovine cornea
Result: Causes serious eye damage. - 10 min
(OECD Test Guideline 437)

**Respiratory or skin sensitization**
Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Result: Positive results were obtained in some in vitro tests.
Remarks: (ECHA)

Test Type: mitotic recombination assay
Test system: Saccharomyces cerevisiae
Result: negative
Remarks: (ECHA)
Test Type: Ames test
Test system: mouse lymphoma cells
Result: positive
Remarks: (ECHA)

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation. - Respiratory system
Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage

**Specific target organ toxicity - repeated exposure**
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**
No aspiration toxicity classification

## SECTION 12: Ecological information

### 12.1 Toxicity

**Mixture**
No data available

### 12.2 Persistence and degradability
No data available

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available

### 12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Endocrine disrupting properties
No data available

### 12.7 Other adverse effects
No data available

**Components**

**Hydrochloric Acid**

| | |
|---|---|
| Toxicity to fish | LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h<br>Remarks: (IUCLID) |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1789 IMDG: 1789 IATA-DGR: 1789

### 14.2 UN proper shipping name

ADR/RID: HYDROCHLORIC ACID
IMDG: HYDROCHLORIC ACID
IATA-DGR: Hydrochloric acid

### 14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA-DGR: 8

### 14.4 Packaging group

ADR/RID: II IMDG: II IATA-DGR: II

### 14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA-DGR: no

### 14.6 Special precautions for user

None

### 14.7 Incompatible materials

Bases, Amines, Alkali metals, Metals, permanganates, for example potassium permanganate, Fluorine, metal acetylides, hexalithium disilicideMetals

**Other regulations**

Hazchem Code : 2R

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Therapeutic Goods (Poisons Standard) Instrument : No poison schedule number allocated

## SECTION 16: Other information

**Full text of H-Statements referred to under sections 2 and 3.**

| | |
|---|---|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |

| | |
|---|---|
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

**Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.



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# SAFETY DATA SHEET

Version 6.16
Revision Date 27.06.2025
Print Date 28.06.2025

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

### 1.1 Product identifiers

Product name : Sodium hydroxide

Product Number : S8045
Brand : SIGALD
CAS-No. : 1310-73-2

### 1.2 Other means of identification

Caustic soda

### 1.3 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : For R&D use only. Not for pharmaceutical, household or other uses.

### 1.4 Details of the supplier of the safety data sheet

Company : Merck Life Science Pty Ltd
Ground Floor, Building 1, 885 Mountain Highway
BAYSWATER VIC 3153
AUSTRALIA

Telephone : +61 1800 800 097
E-mail address : customersupport.anz@merckgroup.com

### 1.5 Emergency telephone number

Emergency Phone # : Free call (24/7): 1800 862 115
Int'l (24/7): +61 2 9037 2994
(CHEMTREC)

## SECTION 2: Hazards identification

### 2.1 GHS Classification

Corrosive to metals (Category 1), H290
Skin corrosion/irritation (Sub-category 1A), H314
Serious eye damage/eye irritation (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word Danger

Hazard Statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Precautionary Statements

Prevention

| | |
|---|---|
| P234 | Keep only in original packaging. |
| P260 | Do not breathe dust. |
| P264 | Wash skin thoroughly after handling. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |

Response

| | |
|---|---|
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. |
| P304 + P340 + P310 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. |
| P390 | Absorb spillage to prevent material damage. |

Disposal

| | |
|---|---|
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**2.3 Other hazards** - none

## SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

**3.1 Substances**

Synonyms : Caustic soda

Formula : NaOH
Molecular weight : 40.00 g/mol
CAS-No. : 1310-73-2
EC-No. : 215-185-5
Index-No. : 011-002-00-6

**Hazardous components**

| Component | Classification | Concentration |
|---|---|---|
| **sodium hydroxide** | | |
| | Met. Corr. 1; Skin Corr./Irrit. 1A; Eye Dam./Irrit. 1; H290, H314, H318<br>Concentration limits:<br>>= 0.4 %: Met. Corr. 1, H290; >= 5 %: Skin Corr. 1A, H314; 2 - < 5 %: Skin Corr. 1B, H314; 0.5 - < 2 %: Skin Irrit. 2, H315; 0.5 - < 2 %: Eye Irrit. 2, H319; | <= 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General advice**
First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.

**If inhaled**
After inhalation: fresh air. Call in physician.

**In case of skin contact**
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

**In case of eye contact**
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

**If swallowed**
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

### 4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Unsuitable extinguishing media**
Water Foam

### 5.2 Special hazards arising from the substance or mixture
Sodium oxides
Not combustible.
Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information
Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

### 6.2 Environmental precautions
Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**

No metal containers.
Tightly closed. Dry.

**Storage class**

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| sodium hydroxide | 1310-73-2 | Peak limit | 2 mg/m3 | Australia. Workplace Exposure Standards for Airborne Contaminants. |

### 8.2 Exposure controls

**Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:KCL 741 Dermatril® L

**Body Protection**
protective clothing

**Respiratory protection**
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Physical state | pellets |
| b) | Color | white |
| c) | Odor | odourless |
| d) | Melting point/freezing point | Melting point/ range: 318 °C |
| e) | Initial boiling point and boiling range | 1,390 °C at 1,013 hPa |
| f) | Flammability (solid, gas) | The product is not flammable. |
| g) | Upper/lower flammability or explosive limits | No data available |
| h) | Flash point | Not applicable |
| i) | Autoignition temperature | No data available |
| j) | Decomposition temperature | No data available |
| k) | pH | ca.> 14 at 100 g/l at 20 °C |
| l) | Viscosity | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) | Water solubility | 1,090 g/l at 20 °C |
| n) | Partition coefficient: | Not applicable for inorganic substances |

| | | |
|---|---|---|
| | n-octanol/water | |
| o) | Vapor pressure | No data available |
| p) | Density | 2.13 g/cm3 at 20 °C |
| | Relative density | No data available |
| q) | Relative vapour density | No data available |
| r) | Particle characteristics | No data available |
| s) | Explosive properties | Not classified as explosive. |
| t) | Oxidizing properties | none |

**9.2 Other safety information**

| | |
|---|---|
| Dissociation constant | 14.8 at 25 °C |
| Relative vapour density | 1.38 - (Air = 1.0) |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
The product is chemically stable under standard ambient conditions (room temperature) .

**10.3 Possibility of hazardous reactions**
Violent reactions possible with:
Acetone
Chlorine
Ethylene oxide
Fluorine
Hydrogen halides
Hydrazine hydrate
hydroxylamine
Acid anhydrides
Acrolein
Acid chlorides
Acids
sulfuric acid
Chloroform
Water
hydrogen peroxide
anhydrides
phosphides
halogen-halogen compounds
trichloroethene
can decompose violently in contact with:
Organic Substances
hydrogen sulphide
Risk of ignition or formation of inflammable gases or vapours with:
powdered aluminium
Ammonium salts

persulfates
Sodium borohydride
phosphorus
Oxides of phosphorus
Halogenated hydrocarbon
Light metals
Metals
Risk of explosion/exothermic reaction with:
Bromine
Calcium
in powder form
furfuryl alcohol
Nitromethane
Peroxides
organic nitro compounds
Nitriles
Acrylic monomers
Chloroform
with
Acetone
Nitrobenzene
with
Methanol
Nitrobenzene
with
salts
magnesium
Zinc
and
Tin
(in the presence of atmospheric oxygen and/or moisture)

**10.4 Conditions to avoid**
no information available

**10.5 Incompatible materials**
No data available

**10.6 Hazardous decomposition products**
In the event of fire: see section 5

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

**Acute toxicity**
Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: Causes burns.
Remarks: (Regulation (EC) No 1272/2008, Annex VI)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Causes serious eye damage.
(OECD Test Guideline 405)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)
Remarks: Causes serious eye damage.

**Respiratory or skin sensitization**
Patch test: - In vitro study
Result: negative
Remarks: (ECHA)

**Germ cell mutagenicity**
No data available

**Carcinogenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

### 11.2 Additional Information

RTECS: WB4900000
Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h<br>Remarks: (ECOTOX Database) |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Ceriodaphnia (water flea) - 40.4 mg/l - 48 h<br>Remarks: (ECHA) |
| Toxicity to bacteria | EC50 - Photobacterium phosphoreum - 22 mg/l - 15 min<br>Remarks: (External MSDS) |

### 12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Neutralisation possible in waste water treatment plants.
Discharge into the environment must be avoided.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

## SECTION 14: Transport information

**14.1 UN number**

ADR/RID: 1823 IMDG: 1823 IATA-DGR: 1823

**14.2 UN proper shipping name**

| | |
|---|---|
| ADR/RID: | SODIUM HYDROXIDE, SOLID |
| IMDG: | SODIUM HYDROXIDE, SOLID |
| IATA-DGR: | Sodium hydroxide, solid |

**14.3 Transport hazard class(es)**

ADR/RID: 8 IMDG: 8 IATA-DGR: 8

**14.4 Packaging group**

ADR/RID: II IMDG: II IATA-DGR: II

**14.5 Environmental hazards**

ADR/RID: no IMDG Marine pollutant: no IATA-DGR: no

**14.6 Special precautions for user**

None

**14.7 Incompatible materials**

**Other regulations**

Hazchem Code : 2W

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Therapeutic Goods (Poisons Standard) Instrument : Schedule 6

## SECTION 16: Other information

**Full text of H-Statements referred to under sections 2 and 3.**

| | |
|---|---|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |

**Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.



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# Safety Data Sheet

## NON-Hazardous, NON-Dangerous Goods

### 1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

**Product name:** WWAP30

**Recommended use:** Polymer. Processing aid for industrial applications.


**Supplier:** Integrated Water Management Pty Ltd
**ABN:** 75 153 205 095
**Street Address:** Unit 7 / 128 Evans Road
SALISBURY QLD 4107
**Telephone:** 1300 729 151 (8:00 am - 5.00 pm)
**Facsimile:** 07 3054 0355 (8:00 am - 5:00 pm)
**Email:** admin@ih2om.com.au


**Emergency Telephone number:** **Fire 000, Terry 0412 499 690 (24 Hrs), Alex 0412 417 129 (24Hrs), Poisons Information 13 11 26**

### 2. HAZARDS IDENTIFICATION

**Based on available information, this material is not classified as hazardous according to criteria of Safe Work Australia GHS 7.**

**Poison Schedule:** Not Applicable

**DANGEROUS GOOD CLASSIFICATION**

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

### 3. COMPOSITION INFORMATION

| CHEMICAL ENTITY | CAS NO | PROPORTION |
|---|---|---|
| Ingredients determined to be Non-Hazardous | | 100 % |
| | | 100% |

### 4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

**Inhalation:** Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

**Skin Contact:** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

**Eye contact:** If in eyes wash out immediately with water. In all cases of eye contamination it is a sensible

precaution to seek medical advice.

**Ingestion:** Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

**PPE for First Aiders:** Wear gloves, safety glasses, dust mask. Available information suggests that gloves made from polyvinyl chloride (PVC) should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Notes to physician:** Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

**Hazchem Code:** Not applicable.

**Suitable extinguishing media:** If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

**Specific hazards:** Non-combustible material.

**Fire fighting further advice:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILLS**
Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Do not flush with water. Clean up promptly by sweeping or vacuuming. Collect and seal in properly labelled containers or drums for disposal. After cleaning, flush away with traces with water. Aqueous solutions or powders that become wet render surfaces extremely slippery.

**LARGE SPILLS**
Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation. Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services. After cleaning, flush away traces with water.

**Dangerous Goods - Initial Emergency Response Guide No:** Not applicable

## 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of dust.

**Storage:** Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Keep container standing upright. Keep containers closed when not in use - check regularly for spills.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**National occupational exposure limits:** No value assigned for this specific material by Safe Work Australia.

**Biological Limit Values:** As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Natural ventilation should be adequate under normal use conditions.

**Personal Protection Equipment:** GLOVES, SAFETY GLASSES, DUST MASK.

Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

Wear gloves, safety glasses, dust mask. Available information suggests that gloves made from polyvinyl chloride (PVC) should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

*RECOMMENDATIONS FOR CONSUMER USE:*
Safety Glasses should have side shield. Work clothes covering the arms, legs and body is recommended.No personal resporatory equipment is normally required. Dust safety masks recommended where working powder concentration is more than 10 mg/m3.

**Hygiene measures:** Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of dust. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Material Family:** | Unknown |
| **Base Units:** | Kilogram |
| **Form:** | Granules |
| **Colour:** | Granular solid, white. |
| **Odour:** | None |

| | |
|---|---|
| **Solubility:** | soluble in water |
| **Density:** | 0.6 - 0.9 (relative) |
| **Autoignition Temperature (°C):** | Does not self ignite based on chemical structure. |
| **Melting Point/Range (°C):** | >150 deg C |
| **Decomposition Point (°C):** | > 150 Deg C |
| **pH:** | 5 - 9 @ 5g/L |
| **Partition Coefficient:** | -2 |
| **Explosive properties:** | Kst=0 Not expected to create explosive atmospheres. |
| **Oxidising properties:** | Not expected to be oxidising based on chemical structure. |

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical stability:** This material is thermally stable when stored and used as directed.

**Conditions to avoid:** Elevated temperatures and sources of ignition. Aqueous solutions or powders that become wet render surfaces extremely slippery.

**Incompatible materials:** Incompatible with oxidising agents

**Hazardous decomposition products:** Thermal decomposition products may produce : nitrogen oxides (NOx), Carbon oxides (COx), hydrogen cyanide (hydrocyanic acid) may be produced in an oxygen deficient atmosphere.

**Hazardous reactions:** Oxidising agents may cause exothermic reactions

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Acute Effects**

**Inhalation:** Material may be an irritant to mucous membranes and respiratory tract.

**Skin contact:** Contact with skin may result in irritation.

**Ingestion:** Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

**Eye contact:** May be an eye irritant. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

**Acute toxicity**

**Inhalation:** This material has been classified as not hazardous for acute inhalation exposure. Acute toxicity estimate (based on ingredients): $LC_{50}$ > 5.0 mg/L for dust.

**Skin contact:** This material has been classified as not hazardous for acute dermal exposure. Acute toxicity estimate (based on ingredients): $LD_{50}$ > 2,000 mg/Kg bw

WWAP30 LD50 (Rat): >5000 mg/kg

**Ingestion:** This material has been classified as not hazardous for acute ingestion exposure. Acute toxicity estimate (based on ingredients): $LD_{50}$ > 2,000 mg/Kg bw

WWAP30 LD50 (Rat): >5000 mg/kg

**Corrosion/Irritancy:** Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as not corrosive or irritating to skin.

**Sensitisation:** Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

**Aspiration hazard:** This material has been classified as not an aspiration hazard.

**Specific target organ toxicity (single exposure):** This material has been classified as not a specific hazard to target organs by a single exposure.

**Chronic Toxicity**

**Mutagenicity:** This material has been classified as not a mutagen.

**Carcinogenicity:** This material has been classified as not a carcinogen.

**Reproductive toxicity (including via lactation):** This material has been classified as not a reproductive toxicant.

**Specific target organ toxicity (repeat exposure):** This material has been classified as not a specific hazard to target organs by repeat exposure.

## 12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

**Acute aquatic hazard:** This material has been classified as not hazardous for acute aquatic exposure. Acute toxicity estimate (based on ingredients): > 100 mg/L

WWAP30 48hr EC50 (Daphnia magna): 100 mg/l

**Long-term aquatic hazard:** This material has been classified as not hazardous for chronic aquatic exposure. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log $K_{ow}$ < 4.

**Ecotoxicity:** No information available.

**Persistence and degradability:** Not readily biodegradable.Does not hydrolyse.

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

## 13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

## 14. TRANSPORT INFORMATION

**ROAD AND RAIL TRANSPORT**
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

**MARINE TRANSPORT**
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

**AIR TRANSPORT**
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

## 15. REGULATORY INFORMATION

**This material is not subject to the following international agreements:**
Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)

The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

**This material/constituent(s) is covered by the following requirements:**

The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth): Not Applicable.

AICIS Status: Formulations where all components are AICS listed.

## 16. OTHER INFORMATION

Reason for issue: 5 Yearly Revision

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.

# Appendix 4 – PIRMP Test Record

| PIRMP Testing Record | | | |
|---|---|---|---|
| **Date of Test:** | **Person Conducting Test:** | **Test Details:** | **Improvements / Changes Required:** |
| 10/10/2025 | Jeremy Tosswill<br>Ian Warren | Practical scenario undertaken to simulate damage to water transfer pipework by mobile plant causing contaminated water leak | PIRMP implemented effectively with no changes for improvement identified |
| | | | |
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