Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
PREFORMED LINE ALVANIA GREASE RL 3

PRODUCT USE
Automotive and industrial grease.

SUPPLIER
Company: Preformed Line Products (Australia) Pty Ltd
Address: 190 Power Street
          Glendenning
          NSW, 2761
          Australia
Telephone: +61 2 8805 0000
Emergency Tel: +61 2 8805 0000 (8am- 5:30pm M- F)
Fax: +61 2 8805 0096

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

RISK
• None under normal operating conditions.

SAFETY
• None under normal operating conditions.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS RN</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>mineral oil</td>
<td>Not avail.</td>
<td>&gt;60</td>
</tr>
<tr>
<td>(highly refined)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>additives</td>
<td>Not Spec</td>
<td></td>
</tr>
</tbody>
</table>

Section 4 - FIRST AID MEASURES

SWALLOWED
• Immediately give a glass of water.
• First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE
• If this product comes in contact with eyes:
  • Wash out immediately with water.
  • If irritation continues, seek medical attention.
  • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN
• If skin or hair contact occurs:
  • Flush skin and hair with running water (and soap if available).
  • Seek medical attention in event of irritation.

INHALED
• If fumes, aerosols or combustion products are inhaled remove from contaminated area.
• Other measures are usually unnecessary.

NOTES TO PHYSICIAN
• Treat symptomatically.
• 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.

continued...
Section 4 - FIRST AID MEASURES

• 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.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
• Foam.
• Dry chemical powder.
• BCF (where regulations permit).
• Carbon dioxide.

FIRE FIGHTING
• Alert Fire Brigade and tell them location and nature of hazard.
• Wear breathing apparatus plus protective gloves.
• Prevent, by any means available, spillage from entering drains or water courses.
• Use water delivered as a fine spray to control fire and cool adjacent area.

FIRE/EXPLOSION HAZARD
• Combustible.
• Slight fire hazard when exposed to heat or flame.
• Heating may cause expansion or decomposition leading to violent rupture of containers.
• On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include: carbon dioxide (CO2), other pyrolysis products typical of burning organic material. May emit poisonous fumes.

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.

FIRE INCOMPATIBILITY
• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

HAZCHEM
None

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
■ Slippery when spilt.
• Clean up all spills immediately.
• Avoid contact with skin and eyes.
• Wear impervious gloves and safety goggles.
• Trowel up/scrape up.

MAJOR SPILLS
■ Slippery when spilt.
Minor hazard.
• Clear area of personnel.
• Alert Fire Brigade and tell them location and nature of hazard.
• Control personal contact with the substance, by using protective equipment as required.
• Prevent spillage from entering drains or water ways.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Prevent concentration in hollows and sumps.

continued...
SUITABLE CONTAINER
- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY
- CARE: Water in contact with heated material may cause foaming or a steam explosion with possible severe burns from wide scattering of hot material. Resultant overflow of containers may result in fire.
- Avoid reaction with oxidising agents.

STORAGE REQUIREMENTS
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

<table>
<thead>
<tr>
<th>Source</th>
<th>Material</th>
<th>TWA mg/m³</th>
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<tbody>
<tr>
<td>Australia Exposure Standards</td>
<td>mineral oil (Oil mist, refined mineral)</td>
<td>5</td>
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</tbody>
</table>

MATERIAL DATA

PREFORMED LINE ALVANIA GREASE RL 3:
- Toxicity and Irritation data for petroleum-based mineral oils are related to chemical components and vary as does the composition and source of the original crude.
- A small but definite risk of occupational skin cancer occurs in workers exposed to persistent skin contamination by oils over a period of years.
- Petroleum oils which are solvent refined/extracted or severely hydrotreated, contain very low concentrations of both.

MINERAL OIL:
- for mineral oils (excluding metal working fluids), pure, highly and severely refined:
  - Human exposure to oil mist alone has not been demonstrated to cause health effects except at levels above 5 mg/m³ (this applies to particulates sampled by a method that does not collect vapour). It is not advisable to apply this standard to oils containing unknown concentrations and types of additive.

PERSONAL PROTECTION

RESPIRATOR

EYE
- Safety glasses with side shields
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens 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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

HANDS/FEET
- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

OTHER
- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

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

continued...
provide this high level of protection.
The basic types of engineering controls are:
Process controls which involve changing the way a job activity or process is done to reduce the risk.
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.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE
Light brown semi-solid grease with a characteristic mineral oil; insoluble in water.

PHYSICAL PROPERTIES
Does not mix with water.
Floats on water.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>State</td>
<td>Non Slump Paste</td>
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<tr>
<td>Melting Range (°C)</td>
<td>&gt;180 (dropping point)</td>
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<tr>
<td>Boiling Range (°C)</td>
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</tr>
<tr>
<td>Flash Point (°C)</td>
<td>&gt;200 (COC) (mineral oil)</td>
</tr>
<tr>
<td>Decomposition Temp (°C)</td>
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<tr>
<td>Autoignition Temp (°C)</td>
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<tr>
<td>Upper Explosive Limit (%)</td>
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<tr>
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<tr>
<td>Molecular Weight</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Solubility in water (g/L)</td>
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<tr>
<td>pH (1% solution)</td>
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<tr>
<td>Vapour Pressure (kPa)</td>
<td>&lt;0.005</td>
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<tr>
<td>Upper Explosive Limit (%)</td>
<td>0.9 @ 15C</td>
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<tr>
<td>Lower Explosive Limit (%)</td>
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<td>Relative Vapour Density</td>
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<tr>
<td>(air=1)</td>
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</tr>
<tr>
<td>pH (as supplied)</td>
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</tr>
<tr>
<td>Evaporation Rate</td>
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</table>

Section 10 - STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY
- Product is considered stable and hazardous polymerisation will not occur.
  For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
- 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 (eg. 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). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

EYE
- Although the material 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).

SKIN
- The liquid may be miscible 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 . Open cuts, abraded or irritated skin should not be exposed to this material. The material may accentuate any pre-existing dermatitis condition. Entry into the blood-stream, through, for example, cuts, abrasions 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.

INHALED
- The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives 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. Inhalation hazard is increased at higher temperatures.

continued...
Not normally a hazard due to non-volatile nature of product. Inhalation of oil droplets or aerosols may cause discomfort and may produce chemical inflammation of the lungs.

CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

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. There are few systemic effects, but prolonged exposure may lead to a higher incidence of lung scarring.

TOXICITY AND IRRITATION

■ 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:
  • The adverse effects of these materials are associated with undesirable components, and
  • The levels of the undesirable components are inversely related to the degree of processing;
  • Distillate base oils receiving the same degree or extent of processing will have similar toxicities;
  • The potential toxicity of residual base oils is independent of the degree of processing the oil receives.

Highly and Severely Refined Distillate Base Oils

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).

When tested for skin and eye irritation, the materials have been reported as “non-irritating” to “moderately irritating” Testing in guinea pigs for sensitization has been negative

Repeat dose toxicity: . Several studies have been conducted with these oils.

Section 12 - ECOLOGICAL INFORMATION

No data

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
<th>Bioaccumulation</th>
<th>Mobility</th>
</tr>
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<tbody>
<tr>
<td>mineral oil</td>
<td>No Data</td>
<td>No Data</td>
<td>Available</td>
<td>Available</td>
</tr>
</tbody>
</table>

Section 13 - DISPOSAL CONSIDERATIONS

• DO NOT allow wash water from cleaning or process equipment to enter drains.
• It may be necessary to collect all wash water for treatment before disposal.
• In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
• Where in doubt contact the responsible authority.
• Recycle wherever possible or consult manufacturer for recycling options.
• Consult State Land Waste Authority for disposal.
• Bury or incinerate residue at an approved site.
• Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:
None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

continued...
Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE None

REGULATIONS

Regulations for ingredients

No data for Preformed Line Alvania Grease RL 3 (CW: 32-1898)
No data for mineral oil (CAS: , Not avail)

Section 16 - 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. A list of reference resources used to assist the committee may be found at: www.chemwatch.net/references.

The (M)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.

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This is the end of the MSDS.