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**Steam Powered Garden Railways**

Product Sheet

**Argyle Loco Works**

## **Steam Oil Grade 460**

### **Product Description**

This 460-viscosity grade steam oil is produced from special cylinder stock treated with fatty compounds to provide superior lubrication even if wet conditions are encountered. The fatty compounds form emulsions which spread the oil on the internal surfaces, providing a strong lubricating film where needed to protect bores and valves. This is particularly important where very wet steam has to be handled at the cylinders.

### **Applications**

Steam Oil Grade 460 is suitable for use in most model Locomotives and Stationary engines working with saturated steam under low temperature and pressure (generally <150psi). In addition to cylinders, it is recommended for valve chests, slides, linkages, and general lubrication by means of mechanical applicators, atomisers or oil can.

### **Physical Data**

- Appearance: Light amber mobile liquid with a mineral oil odour.
- Boiling Point: > 300° C
- Vapour Pressure: Not available
- Specific Gravity: 0.9025
- Pour Point: -9° C
- Flash Point: > 235° (COC)
- Solubility in Water: Negligible.

### **Other Properties**

- Viscosity @ 40°C: 404 cSt (Typical)
- Stability Haz: Stable under normal conditions of storage and handling.
- Polymerization: Will not occur.
- Materials to Avoid: Strong oxidising agents.

### **Packaging**

Supplied in 500ml Bottle.



### **Transport.**

According to Australia Post, Steam Oil Grade 460 is not a Dangerous Good. It does not fall into any of the Dangerous Goods categories:

- Class 3 – Flammable liquids
- Class 5 – Oxidisers and organic peroxides
- Class 6 – Toxic and infectious substances
- Class 8 – Corrosives
- Class 9 – Miscellaneous.



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### **Packaging for Transport**

Australia Post requires the packaging for liquids that are non-dangerous goods must comprise:

- A leak-proof primary container made of glass, metal, plastic, or similar material.
- A strong outer box made of metal, wood, strong plastic or strong corrugated cardboard with a lid that cannot easily work loose.
- An absorbent material, such as cotton wool, to be placed between the primary container and the outer container and of sufficient quantity to absorb all liquid if the primary container fails.

### **Health Effects.**

- **Acute-Swallowed:** May cause irritation of the gastrointestinal tract that may include nausea, vomiting and diarrhoea.
- **Acute- Eye:** Eye contact may cause mild irritation with stinging, blurring, and tearing.
- **Acute- Skin:** May dry and defat the skin, resulting in skin irritation and possible dermatitis. Oil residue accidentally injected under the skin can result in local necrosis and tissue damage.
- **Acute- Inhaled:** Inhalation of vapours or mists in confined poorly ventilated areas or at elevated temperatures may cause respiratory system irritation or other pulmonary effects.
- **Chronic:** Prolonged or repeated contact may result in skin irritation leading to dermatitis. Repeated exposure to vapour or mist at concentrations in air that exceed exposure standards.

### **First Aid Measures.**

- **Inhalation:** Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a facemask if breathing is difficult. If irritation develops and persists seek medical attention.
- **Ingestion:** DO NOT induce vomiting. Immediately wash out mouth with water, and then give water to drink. Do not give anything by mouth to unconscious person. Seek medical attention.
- **Skin:** Remove all contaminated clothing. Wash gently and thoroughly with water and nonabrasive soap. Ensure contaminated clothing is washed before re-use or discard. If irritation develops and persists, seek medical attention. Should oil residue be injected under the skin seek immediate medical attention.
- **Eye:** If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, seek medical attention.
- **Advice to Doctor:** Treat Symptomatically. High-pressure equipment can cause small bloodless puncture wounds where the material may have been deeply injected into the body. If this occurs there is usually extensive swelling, discolouration, and intense pain within 24 hours. Seek immediate medical attention at an emergency centre.

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