

PRODUCT: SINGER INDUSTRIAL OIL

Date: 10/31/2013 FDS No.: SdB 001

Version: 4.0

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1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Singer Industrial Oil
Internal identification code: 20046-600
Company: SINGER DO BRASIL INDÚSTRIA E COMÉRCIO LTDA
Address: Estrada Municipal Henrique Schultz, s/nº, Gleba 1B, Bairro Santa Idalina, Distrito de Cardeal – Elias Fausto – S.P.
ZIP CODE: 13350-000
Telephone Number / Fax Number: (0xx19) 2107-4614 / 2107-4844
Emergency Telephone Number: **0800-707-7022**

2 – COMPOSITION AND INFORMATION ON INGREDIENTS

PREPARATION

Chemical Nature: Properly refined petroleum mineral oil of the naphthenic type, composed of alkanes and cycloalkanes, with lower contents of aromatic hydrocarbons.
Synonyms: LUB-NH20.
CAS Registry Number: 64742-52-5

3 – HAZARD IDENTIFICATION

MAJOR HAZARDS

- Physical and chemical hazards: Combustible liquid.
- Specific hazards: Combustible and slightly toxic product.

PRODUCT EFFECTS

- Adverse effects on human health: Slightly toxic.

4 – FIRST-AID MEASURES

Inhalation: If vapors derived from product heating are inhaled, remove the victim to fresh air. If breathing is difficult, administer oxygen at a given flow rate immediately, taking the product label with you, if possible.

Skin contact: Remove contaminated clothing and footwear right away. Flush skin with plenty of water for at least 20 minutes, preferably under a safety shower. Seek medical attention immediately, taking the product label with you, if possible.

Eye contact: Flush eyes with plenty of water for at least 20 minutes, holding eyelids open. Preferably use an eye wash fountain. Seek medical attention immediately, taking the product label with you, if possible.

Ingestion: Do not induce vomiting. If the victim is conscious, wash his/her mouth out with copious amounts of clean water and give him/her water to drink. Seek medical attention immediately, taking the product label with you, if possible.

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Notes to physician:

Product with very low vapor pressure. At ambient temperature, vapor inhalation is insignificant.

5 – FIREFIGHTING MEASURES

Suitable extinguishing media:

Foam for hydrocarbons, water mist, dry chemical (powder), and carbon dioxide (CO₂).

Specific hazards:

Normal combustion produces carbon dioxide (CO₂), water vapor, sulfur and nitrogen oxides. Incomplete combustion may produce carbon monoxide.

Special methods:

Cool fire-exposed containers and environment with water spray/mist. Sand may be used to control small fire sources. Remove the containers from the area of fire if this can be done without any risk.

Firefighter protection:

In fires involving this product, do not enter a confined space without appropriate personal protective equipment, including a self-contained breathing apparatus.

6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

- Remove sources of ignition:

Eliminate all sources of ignition, avoid sparks, flashes, flames, and do not smoke in the risk area. Isolate the leak from all sources of ignition.

- Dust control:

Not applicable (liquid product).

- Prevention of inhalation and contact with skin, mucous membranes, and eyes:

Wear boots, cotton overalls, impervious gloves and apron, hermetic chemical safety goggles, and appropriate respiratory protection.

ENVIRONMENTAL PRECAUTIONS:

Stop the leak if this can be done without any risk. Do not allow the spread material to enter public drainage system. Avoid the possibility of superficial water or spring water contamination. Restrict the leak to the smallest possible area. Dragging with water must take into consideration subsequent treatment of contaminated water. Avoid such dragging.

CLEANING UP METHODS:

- Recovery:

Recover the product, pumping it into a duly labeled, well-closed emergency container. Keep the recovered product for later discard. Do not use water to avoid product spread and skidding.

- Neutralization:

Absorb the product with earth or other absorbent material.

- Disposal:

Do not dispose of as ordinary garbage. Do not discard in sewers or watercourses. If possible, confine the product for later recovery or discard. Final disposal of this material should be supervised by a specialist and comply with current environmental regulations.

NOTE:

Notify the local environmental authority in case of leaks or contamination of superficial water, spring water, or soil.

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7 – HANDLING AND STORAGE

HANDLING

Technical measures:

- Prevention of worker's exposure:

Make use of personal protective equipment (PPE) to avoid direct contact with the product.

- Prevention of fire and explosion:

Empty containers should not be welded, heated, or punctured, as there is the risk of explosion. The use of pressure to empty drums may also result in explosion.

Precautions for safe handling:

Provide local exhaust ventilation if required by the processes. All conductive elements of the system in contact with the product should be electrically grounded. Use nonsparking tools.

- **Directions for safe handling:**

Handle the product in accordance with general safety and industrial hygiene regulations.

STORAGE

Technical measures:

The storage area should have impervious flooring, free of combustible materials, with a contention dike to retain the product in case of leaks.

Storage conditions:

- Adequate:

Store in a cool, ventilated place, away from sources of ignition, and at atmospheric pressure. Prolonged heating at temperatures above 60°C may degrade the product. Containers should be kept closed when not in use.

- To avoid:

Do not store near strong oxidizing agents, heat, or flame.

Incompatible products and materials:

Strong oxidizing agents (peroxides, chlorates, chromic acid, etc.).

- Recommended:

High-density polyethylene (HDPE) and carbon steel with sanitary varnish lining.

8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

Engineering control measures:

Handle the product in an area with good natural or mechanic ventilation so as to keep vapor concentration below the Tolerance Limit.

Control Parameters

- Occupational exposure limits

- Threshold limit value (Brazil, Administrative Rule MTb 3214/78, NR 15 – Annex 11): Not established.

- Threshold limit value (USA, ACGIH):

Oil mist: TLV/TWA: 5 mg/m³.
TLV/STEL: 10 mg/m³.

Personal Protective Equipment

- Respiratory protection:

At low concentrations, use a respirator with a chemical filter for organic vapors. At high concentrations, use a self-contained or remote-air-supply breathing apparatus.

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- Hands protection: - Eyes protection: - Skin and body protection: Special Precautions: Hygiene Measures:	PVC gloves in activities involving direct contact with the product. In operations with potential projections or splashes, the use of safety goggles or face shield is recommended. Cotton overalls and, if necessary, impervious (PVC, polyethylene, or neoprene) apron. Safety showers and eye wash fountains should be available in product handling areas. Avoid prolonged or frequent contact with the product. Clothing and footwear should be cleaned after their use. Industrial Hygiene general control methods should minimize the exposure to the product. Do not eat, drink, or smoke while handling chemicals. Working clothes should be separated from ordinary clothes.
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9 – PHYSICAL AND CHEMICAL PROPERTIES

Aspect

- Physical state: - Color: - Odor: pH: Specific Temperatures - Boiling point: - Melting point: Flash point: Combustion point: Flammable (explosive) limits in air: Vapor pressure: Density: Solubility - In water: - In organic solvents: Pour point:	Clear liquid. Transparent, yellowish. Odorless. Not applicable (indissociable product). Not applicable. Not applicable. 160°C (open cup). >180°C. Not applicable (nonflammable product). <5 mmHg @ 20°C. 0.9017 @ 20/4°C. Insoluble. Miscible in hydrocarbon solvents. -33°C.
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10 – STABILITY AND REACTIVITY

Specific conditions

Instability: Hazardous reactions: Incompatible materials / substances: Hazardous decomposition products:	Stable at ambient temperature and under normal conditions of use. Reacts exothermically in contact with strong oxidizing agents. Heating above 60°C may give rise to product decomposition. Strong oxidizing agents (peroxides, chlorates, chromic acid, etc.). Light distillates and [petroleum] coke.
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11 – TOXICOLOGICAL INFORMATION

Acute toxicity

- Inhalation: Acute toxic effects are not expected.
- Skin contact: LD50 > 2 g/kg (concaew no. 97/108).
- Ingestion: LD50 > 5 g/kg (concaew no. 97/108).

Local effects

- Inhalation: Mild irritation to respiratory system.
- Skin contact: Significant or prolonged irritation is not expected.
- Eye contact: Significant or prolonged irritation is not expected.

Chronic Toxicity

- Inhalation: Respiratory system irritation after repeated product mist inhalation.
- Skin contact: Susceptible individuals and [sic] dermatitis may have their condition aggravated after repeated contact.
- Eye contact: Mild eye irritation.

Specific effects

- Carcinogenic: According to the results of Ames tests of mutagenicity (MI = 0.52), carcinogenic activity of the product is not expected in experimental animals.

12 – ECOLOGICAL INFORMATION

Ecotoxicity

- Effects on aquatic organisms: Attention should be given to the possibility of contamination of watercourses, as their quality must be in accordance with applicable environmental regulations.
- Effects on soil organisms: The product may infiltrate into the soil and reach ground water, originating pollution.

13 – DISPOSAL CONSIDERATIONS

Treatment and disposal methods

- Product: Treatment and disposal of the product should be technically evaluated on a case-by-case basis.
- Residues: Dispose of in facilities approved by environmental authorities.
- Used containers: Dispose of in facilities approved by environmental authorities.

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14 – TRANSPORT INFORMATION**National regulations**

By land (MT, Administrative Rule 420/2004): Product not classified as hazardous for transport.

15 – REGULATORY INFORMATION**LABELING****Classification as per the NFPA:**

Fire: 1

Health: 1

Reactivity: 0

Other: Not available.

EEC regulations:

Mandatory labeling (self-classification) of hazardous preparations: applicable (EEC 265-155-0)

16 – ADDITIONAL INFORMATION**Bibliographic references:**

Civil aviation instruction 153 – REGULATIONS FOR THE TRANSPORT OF DANGEROUS GOODS BY CIVIL AIRCRAFTS of the **Brazilian Department of Civil Aviation [Departamento de Aviação Civil] (DAC) and DOC-9584** – Technical Instructions for the Safe Transport of Dangerous Goods by Air of the **International Civil Aviation Organization (ICAO)**.

Section 14: Regulation for Land Transport of Dangerous Goods of the [Brazilian] National Land Transport Agency (Resolution No. 420 dated May 31, 2004), and List of Dangerous Goods within the Ambit of Mercosur (Decree 1797 dated January 25, 1996).

Note: The webpage of ICAO where above-mentioned Doc-9584 may be consulted is informed below:

(<http://www.icao.int/icao/en/download.htm#docs>).

The information and recommendations presented herein have been researched and compiled from reliable sources competent to issue them, being the limits of application the same as those of the respective sources. The information in this material safety data sheet refers to a specific product and may not be valid where this product is used in combination with other products. Petrobras Distribuidora S.A. clarifies that the data collected by the company is transferred without alteration of content or meaning.