

KAESER KOMPRESSOREN	SAFETY DATA SHEET 1907/2006/EC			KAESER SIGMA Fluid MOL 9.0918.0, 9.0920.0, 9.0923.0, 9.5405.0, 9.5411.0
	OEL_D.DOT	Created by: Modified: Pa/UT	Created on: 01.96 Changed on July 2, 2012	Checked by: QUSEM Released by: QUSEM

1. Identity of substance, preparation, and supplying company

Product trade name: KAESER Sigma Fluid MOL, 9.0918.0, 9.0920.0, 9.0923.0, 9.5405.0, 9.5411.0 cooling oil for rotary screw compressors

Use of the substance/preparation

Compressor and vacuum pump oil

Supplier:

KAESER COMPRESSORS AUSTRALIA PTY. LTD.
 45 Zenith Road
 Melbourne/Victoria
 Dandenong South 3175

Email:

msds.au@kaeser.com

Technical information:

(+61) 3-9791-5999

Emergency telephone number:

(+61) 3-9791-5999

2. Possible hazards

EC Classification: Not classified as dangerous under EC criteria.

Dangers to human health:

Not expected to be a health hazard when used under normal conditions. Prolonged or repeated skin contact without washing can clog pores and cause complaints such as acne and folliculitis. Used oil can contain harmful contaminants.

Signs and symptoms:

Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Swallowing may cause nausea, vomiting or diarrhoea.

Risks to safety

Not classified as flammable but combustible.

Environmental hazards:

Not classified as environmentally harmful.

3. Composition / information on ingredients

Preparation:

Mixture of highly refined mineral oils and **additives**.

Additional information:

According to IP 346, the highly refined mineral oil contains a DMSO extractable part less than 3% (W/W).

4. First-aid measures

General information:

No danger expected under normal conditions.

Inhalation:

No treatment needed under normal conditions of use. Seek medical advice if symptoms persist.

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Skin contact:

Remove contaminated clothing. Rinse exposed skin with water and wash with soap if available. Seek medical advice for persistent irritation.

Eye contact:

Rinse thoroughly with water. Seek medical advice for persistent irritation.

Ingestion:

No treatment necessary unless a large quantity is swallowed. Seek medical advice in such a case.

Note to physicians:

Treat symptomatically.

5. Fire-fighting measures

Allow only rescue services to approach a fire.

Specific hazards:

Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.

Suitable extinguishing media:

Foam, water spray or water mist. Dry powder, carbon dioxide. Sand or earth are only to be used for small fires.

Unsuitable extinguishing agents:

Do not use a strong water jet.

Protective equipment for firefighters:

Wear full protective suit and self-contained breathing apparatus.

6. Accidental release measures

Avoid contact with spilled or released material. See section 8 for personal protection equipment. **See section 13** for disposal. **Comply with relevant national and international regulations.**

Protective measures:

Avoid contact with eyes and skin. Apply suitable containment measures to prevent environmental pollution. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Cleanup measures:

Danger of slipping in spilled liquid. Clean up immediately to avoid accidents. Contain spillage by damming with sand, earth or another suitable substance. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose as per regulations.

Further instructions:

Inform the authorities of a large spill that cannot be contained.

7. Handling and Storage

General safety precautions:

Use ventilating equipment if there is a danger of inhaling vapour, mist or aerosol. Correctly dispose of any contaminated cleaning cloths or utensils to avoid the possibility of fire.

In addition to any specific recommendations given for controls of risks to health, safety and the environment, an assessment of risks must be made to help determine controls appropriate to local circumstances.

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Handling:

Avoid prolonged or repeated contact with skin. Avoid inhaling vapours and/or mist. Wear safety shoes when handling barrels of the product and use suitable handling devices.

Storage:

Keep containers tightly closed and store in a cool, well ventilated place. Use properly labelled and closeable containers. Storage temperature: 0-50 °C / 32-122 °F.

Recommended materials:

Use mild steel or high density polyethylene for containers or container linings.

Unsuitable materials:

PVC

Additional information:

Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

VCI storage class: 10 10

Fire hazard classification: B

Shelf-life:

Lubricants should be stored under dry conditions and at a constant temperature. If the date on the canister/drum is exceeded this does not mean that the product cannot be used. However, its suitability must be checked. For questions in this context, please contact **your service partner**.

8.Limits of exposure and personal protective equipment

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Occupational exposure limits

Product	Source	Type	ppm	mg/m ³	Notation
Oil mist, mineral	ACGIH	TWA [inhalable fraction]		5	

Exposure limits:

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Measures should be based on a risk analysis of local conditions. Appropriate measures include: Adequate ventilation to control concentration in the air. High concentration can occur if the product is heated or sprayed or forms a mist.

Personal protective equipment:

Personal protection equipment should meet national Standards. Consult the supplier if necessary.

Respiratory protection:

No respiratory protection is ordinarily required under normal conditions of use. Precautions should be taken against inhalation in respect of good industrial hygiene. If concentrations cannot be held below critical limits, suitable respiratory protection should be used in respect of working conditions and applicable regulations. Consult the suppliers of respiratory protection devices. If standard filter system are suitable, you select the appropriate combination of filter and mask. Use a combination filter for particles and gas (boiling point >65°C, 149°F to EN14387).

Hand protection:

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of gloves depends on frequency of use, chemical effect on the glove material, thickness and method of manufacture. Consult glove suppliers. Contaminated gloves should be replaced.

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A barrier cream should also be used. Gloves should be worn on clean hands. Hands should be washed and dried thoroughly after gloves have been worn. Perfumed moisturising cream is not recommended.

Eye protection:

Wear safety glasses or full face shield if splashes are likely to occur. Approved to EU Standard EN166.

Protective clothing:

Normal work wear should provide sufficient skin protection.

Monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an occupational exposure limits and adequacy of exposure controls. Biological monitoring may be also suitable for some substances.

Environment control measures:

Minimise release to the environment. Environmental assessment is necessary to ensure the compliance with local environmental legislation.

9. Physical and Chemical Properties

Appearance:..... Light brown, liquid at room temperature
 Odour: Light hydrocarbon aroma
 pH value:..... not applicable
 Boiling point/range: > 280°C / 536 °F estimated
 Pour point:..... typically – 33 °C / -27 °F
 Flash point: typically 230 °C / 446 °F (COC)
 Lower/upper combustibility or explosion limits:..... typically 1-10% (V) (mineral oil basis)
 Auto-ignition temperature: > 320 °C / 608 °F
 Vapour pressure: < 0.5 Pa at 20 °C / 68 °F (estimated)
 Density: typically 875 kg/m³ at 15° C / 59 °F
 Solubility in water: negligible
 Partition coefficient n-octanol/water:..... >6 (based on comparable product information)
 Kinematic viscosity:..... typically 46 mm²/s at 40 °C / 104 °F
 Vapour density (air = 1):..... > 1 (estimated)
 Evaporation rate (nBuAc=1): no data available

10. Stability and reactivity

Stability:

Stable

Conditions to avoid:

Extreme temperatures and direct sunlight.

Materials to avoid:

Strong oxidants.

Hazardous decomposition products:

Hazardous decomposition products are not expected to form during normal storage.

11. Toxicological information

Basis for assessment:

Information given is based on a knowledge of the components and the toxicology of similar products.

Acute oral toxicity:

Expected to be of low toxicity: LD50 > 5,000 mg/kg, rat

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Acute dermal toxicity:

Expected to be of low toxicity: LD50 > 5,000 mg/kg, rabbit

Acute inhalation toxicity:

Not considered to be an inhalation hazard under normal conditions of use.

Skin irritation:

Slightly irritating.

Eye Inflammation:

Slightly irritating.

Respiratory irritation:

Inhaling vapours or mist can cause irritation.

Sensitisation:

Non-sensitizing.

Toxicity from repeated administration:

No danger expected.

Mutagenicity:

Not considered to be a mutagenic hazard.

Carcinogenicity:

Product is based on mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are considered non-carcinogenic by the International Agency for Research on Cancer. Other components are not known to be associated with carcinogenic effects.

Reproductive toxicity:

No danger expected.

Additional information:

Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. All used oil should be handled with caution and skin contact avoided as far as possible.

12. Ecological information

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute toxicity:

Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL50 >100 mg/l. (for aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

Mobility

Remains liquid. Floats on water. If the product escapes into the soil, it will be immobilised at soil particles due to adsorption.

Persistence/degradability:

Not expected to be readily biodegradable. Major constituents are expected to be inherently biodegradable but the product contains components that may persist in the environment.

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Bioaccumulation:

Contains components with the potential to bioaccumulate.

Other adverse effects:

Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. Notes on disposal

Product disposal:

Recover or recycle where possible. It is the responsibility of the waste creator to establish the toxicity and physical characteristics of the materials in order to classify the waste and establish the correct method of disposal in accordance with the applicable regulations. Do not allow to escape to the environment or into sewers or drains.

Container disposal:

Recycle or dispose of in accordance with the legislation in force with a recognised collector or contractor.

National legislation:

Disposal must be in accordance with regional, national and local laws and regulations.
 EU waste code number: 130205* non-chlorinated machine and gear oil and mineral-based lubricants.
 Classification of waste is always the responsibility of the end user.

14. Transport Information

ADR / RID / ADNR / IMDG / IATA (country-specific deviations possible)

The product is not classified as dangerous.

15. Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may also apply to the product.

EC Classification: Not classified as dangerous under EC criteria.

EC hazard symbols: No Hazard Symbol required.

R-phrases Not classified

S phrases: Not classified.

Local inventories

EINECS: All components listed or exempt (polymer).

TSCA: All components listed.

National regulations (Germany):

Water hazard class: WGK 1 – slightly hazardous to water (Annex 4, VwVwS, Preparations)

Other information: Technical Instructions on Air Quality: Product not listed by name. Observe section 5.2.5 in connection with section 5.4.9.

16. Other Information

R-phrases:

Not classified

Safety data sheet directive: Regulation 1907/2006/EC (REACH).

The information in this safety data sheet is based on current knowledge and experience and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not, therefore, be construed as a guarantee of any specific property of the product. MSDS-Sigma Fluid MOL-AUS.doc