

<b>KAESER</b> KOMPRESSOREN  Normal.dotm	<b>SAFETY DATA SHEET</b> <b>1907/2006/EC</b>				KAESER-SIGMA-Fluid <b>FG-460 (FGL),</b> <b>9.1462.0, 9.1463.0</b>
	Created by: Modified: Pa/QESM	Created on: 04.96	Modified: 04.03.2013 V13	Released by: QESM	Page 1 of 4

## 1. Identity of substance, preparation, and supplying company

**Product trade name:** KAESER-Sigma Fluid FG-460  
 cooling oil for rotary screw compressors  
 (FGL), 9.1462.0, 9.1463.0  
**Supplier:** KAESER Kompressoren AG  
 Carl-Kaeser-Strasse 26  
 DE-96450 Coburg  
**Email:** sdb.de@kaeser.com  
**Technical information:** +49 / +9561 / 640-0  
**Emergency telephone number:** Poisons Information Centre Nord Göttingen +49 / 551 / 19240  
  
**Application:** Cooling oil with corrosion inhibitor

## 2. Possible Hazards/Effects on Health

**Eye contact:** May cause irritation.  
**Inhalation:** Hydrocarbon mist may make breathing difficult.  
**Ingestion:** May cause diarrhoea.  
**Skin contact:** May irritate after prolonged contact.

## 3. Composition/Information on Ingredients

**Chemical properties**  
 PAO-based lubricant and additives

Components	CAS number	Proportion in percent
Synthetic poly alpha olefin (PAO)	68037-01-4	96 - 99
Synthetic corrosion and wear protection	80939-62-4	0.5 - 1
Synthetic oxidation inhibitor	41484-35-9	0.2 - 0.5
Synthetic ashless EP additive	10254-57-6	0.1 - 0.5
Mixed alkyl diphenyl amine	68411-46-1	0.1 - 0.3

This product contains no hazardous substances within the definition of OSHA regulation 29 CFR 1910.1200.

## 4. First-aid Measures

**Eye contact:**  
 Rinse open eyes thoroughly for a few minutes under running water. Seek medical help if irritation persists.

**Inhalation:**  
 Clear air passages of oil mist. Seek medical help if respiration difficulty continues.

**Ingestion:**  
 Wash out the mouth immediately. Do not induce vomiting. Obtain medical attention.

**Skin contact:**  
 Wash thoroughly with skin cleaner, then with soap and water. Contaminated clothing should be dry-cleaned before reuse.

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## 5. Fire-fighting Measures

### Suitable extinguishing media:

Foam, powder, carbon dioxide, sand, earth and water mist.

### Unsuitable or unsafe extinguishing media:

Powerful water jet.

### Special protective equipment for fire-fighting:

Self-contained breathing apparatus.

## 6. Accidental Release Measures

### Personal precautions

Wear protective gloves and clothing.

### Environment protection measures:

Prevent escape and entry into the sewage or surface water systems.

### Escaped fluid:

Use sand, earth or an absorption substance to dam or soak-up the spillage. Prevent escape and entry into the sewage or surface water systems. Large volumes may be pumped.

## 7. Handling and Storage

### Handling:

#### Notes on safe handling:

No special handling precautions necessary.

### Storage:

#### Storage room and container requirements:

Avoid sunlight and direct heat sources.

## 8. Exposure control and personal protection

ACGIH TLV (max. concentration at place of work (threshold limit value) according to American Conference of Governmental Industrial Hygienists) 10 mg/m<sup>3</sup> as mist

### Respiratory protection:

Not needed under normal conditions of use. If oil mist cannot be controlled, use a respirator fitted with a filter for organic vapours and a particulate filter.

### Hand protection:

Extra-sensitive persons should use oil-proof working gloves.

### Eye protection:

Wear safety glasses if splashing could occur.

### Body protection:

Overall

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## 9. Physical and chemical properties

### Physical properties

Form:..... Liquid  
 Colour:..... clear  
 Odour:..... mild hydrocarbons

### Safety-relevant data:

pH value:..... Neutral  
 Change of physical state  
 Boiling point..... > 371° C (700° F)  
 Pour point (DIN ISO 3016)..... < - 35 °C  
 Flash point (DIN ISO 2592) and method ..... > 257° C (495° F) COC  
 Autoignition temperature..... > 315° C  
 Evaporation rate (butyl acetate)..... negligible  
 Vapour pressure (20° C)..... < 0.01 kPa  
 Volatiles..... none  
 Density (15° C) (DIN 51 757 D) ..... > 800 < 1000 kg/m<sup>3</sup> (> 0.8 < 1 g/cm<sup>3</sup>)  
 Flammability (ambient temperature) ..... not flammable  
 Fire-provoking characteristics..... none  
 Solubility in water (20° C)..... insoluble  
 Vapour density ..... greater than air  
 Kinetic viscosity (40° C) (DIN 51 562, T.1) ..... 41.6-50.6 mm<sup>2</sup>/s (cSt)  
 Kinetic viscosity (100° C) (DIN 51 562, T.1) ..... 7.9 mm<sup>2</sup>/s (cSt)

## 10. Stability and reactivity

### Stability:

Stable under normal conditions. No photo-reactive agents.

### Conditions to avoid:

Powerful source of ignition and extreme temperatures.

### Substances to avoid:

Strong organic and inorganic acids and oxidising agents.

### Hazardous decomposition products:

Burning generates smoke, soot, hydrocarbons, CO, CO<sub>2</sub>, sulphur and nitrogen oxides. Residue mainly comprises soot and mineral oxides.

## 11. Toxicological information

### Acute toxicity:

**Oral LD50:** > 2000 mg/kg  
 Extrapolated from component data

**Inhalation LC50:** not applicable

**Skin effects:** very mild

**Chronic toxicity:** none known

**Subchronic toxicity:** none known

### Carcinogenicity:

**IARC:** no

**NTP:** no

**OSHA:** no

**Sensitization:** none known

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## 12. Ecological information

### Mobility

Should the fluid escape to the environment, it will be adsorbed by sediment and soil.

### Behaviour:

Relatively good behaviour. No bio-accumulating potential.

### Environmental pollution:

Because of its relative density and the liquid aggregate state of the product it either floats or spreads out on water, a state that results in a harmless form of contamination. It is not assumed that the product is damaging to organisms in water and on land.

## 13. Disposal considerations

### Product:

Recommendation: Hand over to an authorised disposal contractor.

Waste disposal code as per AVV (German Waste List Regulation):

130206\* synthetic machine, gear, and lubricating oils.

### Contaminated packaging:

Recommendation: Empty containers completely.

Hand over to a licensed disposal contractor.

Recommended cleaning agent: Cleaning by recycler.

## 14. Transport Information

Not dangerous for conveyance under UN, IMO/IMDG, ADR/RID and IATA/ICAO codes.

## 15. Regulatory information

### Marking according to EC directives:

NOT SUBJECT TO MARKING OBLIGATION

**S-phrases:** S 3: Keep in a cool place,

S16: Keep away from sources of ignition - No smoking.

### Special marking and specific preparations:

(as per Annex II of the Dangerous Preparations Directive 88/379/EWG): not listed.

### National regulations

Notes on use limitations: .....no limitations

Industrial accident ordinance: .....not named in Annex II.

Classification according to German work safety regulations: .....not classified

Technical Instructions on Air Quality: .....Class 3 (organic)

Water hazard class: .....WGK 2 (classification as per VwVwS (5/99), Annex 3 (Determination and classification of water-hazardous materials on the basis of R-phrases))

## 16. Further information

### Further information:

Concawe Report 5/87, Health Aspects of Lubricants; DGMK report 400-7

Approval according to USDA H1/NSF, registry number 131272

**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.



**NSF International / Nonfood Compounds Registration Program**

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August 13, 2003

Werner Rauer  
KAESER COMPRESSORS, INC.  
P.O. BOX 946  
FREDERICKSBURG, VA 22404  
UNITED STATES

RE SIGMA LUBRICANT FG-460  
Category Code: H1  
NSF Registration No. 131272

Dear Werner Rauer:

NSF has processed the application for Registration of **SIGMA LUBRICANT FG-460** to the *NSF Registration Guidelines for Proprietary Substances and Nonfood Compounds (2003)*, which are available at [www.nsf.org/usda](http://www.nsf.org/usda). The NSF Nonfood Compounds Registration Program is a continuation of the USDA product approval and listing program, which is based on meeting regulatory requirements including FDA 21 CFR for appropriate use, ingredient and labeling.

**This product is acceptable as a lubricant with incidental food contact (H1) for use in and around food processing areas. Such compounds may be used on food processing equipment as a protective anti-rust film, as a release agent on gaskets or seals of tank closures, and as a lubricant for machine parts and equipment in locations in which there is a potential exposure of the lubricated part to food. The amount used should be the minimum required to accomplish the desired technical effect on the equipment. If used as an anti-rust film, the compound must be removed from the equipment surface by washing or wiping, as required to leave the surface effectively free of any substance which could be transferred to food being processed.**

NSF Registration of this product is current when the NSF Registration Number, Category Code, and Registration Mark appear on the NSF-approved product label, and the registered product name is included in the current NSF White Book Listing of Nonfood Compounds at the NSF website (<http://www.nsf.org/usda>). The NSF Registration Mark can be downloaded from the NSF website, at [http://www.nsf.org/mark/download\\_marks.html](http://www.nsf.org/mark/download_marks.html).

NSF Listing of all registered Nonfood compounds by NSF International is not an endorsement of those compounds, or of any performance or efficacy claims made by the manufacturer.

Registration status may be verified at any time via the NSF web site, at <http://www.nsf.org/usda>. Changes in formulation or label, without the prior written consent of NSF, will void registration, and will supersede the on-line listing.

Sincerely,

A handwritten signature in black ink, appearing to read "Carmen Grindatti".

Carmen Grindatti  
NSF Nonfood Compounds Registration Program

Company No: N04281