

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 1 of 9

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

KAESER Sigma Fluid S-460

**Further trade names**

SIGMA S-460 Synthetic Air Compressor Fluid (Sigma Lubricants S-460), 9.5409.0, 9.5409.00010, 9.5409.00020, 9.5409.00030, 9.5409.00040, 9.5409.00050, 9.5409.00060, 9.5409.00070, 9.5409.00080, 9.5409.00090

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

cooling lubricant for rotary screw compressor.

**Uses advised against**

Any non-intended use.

**1.3. Details of the supplier of the safety data sheet****Supplier**

Company name: KAESER Kompressoren SE  
Street: Carl- Kaeser- Strasse 26  
Place: D-96450 Coburg  
Telephone: +49(0)9561/640-0  
Responsible Department: sdb.de@kaeser.com

**1.4. Emergency telephone number:** Giftinformationszentrum Nord Goettingen + 49 (0) 551 19240 (Poison Information Centre Goettingen)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Special labelling of certain mixtures**

11,7 % of the mixture consists of ingredient(s) of unknown acute toxicity (inhalation).  
Contains 6,2 % of components with unknown hazards to the aquatic environment.

**2.3. Other hazards**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

The product does not contain dangerous substances according to REGULATION (EU) No. 2020/878, Annex II, Part A , 3.1/3.2. that must be mentioned in Chapter 3.

**Further Information**

Product does not contain listed SVHC substances &gt; 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

**SECTION 4: First aid measures****4.1. Description of first aid measures**

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 2 of 9

**General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**After inhalation**

In case of accident by inhalation:

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. When in doubt or if symptoms are observed, get medical advice.

**After contact with skin**

Take off immediately all contaminated clothing. Rinse skin with water/shower. In case of skin irritation, consult a physician.

**After contact with eyes**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

**4.2. Most important symptoms and effects, both acute and delayed**

After eye contact: No risks worthy of mention.

Inhalation: No risks worthy of mention.

Skin contact: No risks worthy of mention.

ingestion.: No risks worthy of mention.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

In case of fire:

Carbon dioxide (CO2)

Dry extinguishing powder

Foam

In case of major fire and large quantities:

Water spray jet

**Unsuitable extinguishing media**

High power water jet

**5.2. Special hazards arising from the substance or mixture**

Can be released in case of fire: Carbon dioxide (CO2). Carbon monoxide. Nitrogen oxides (NOx). Sulfur oxides.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. In case of fire and/or explosion do not breathe fumes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use water spray jet to protect personnel and to cool endangered containers.

Co-ordinate fire-fighting measures to the fire surroundings.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 3 of 9

**General measures**

Avoid contact with skin, eyes and clothes.

**For non-emergency personnel**

Wear personal protection equipment (refer to section 8).

**For emergency responders**

No special precautionary measures are necessary.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers).

Cover drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

**For cleaning up**

Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe vapour/aerosol. Avoid contact with skin, eyes and clothes.

Wear personal protection equipment (refer to section 8).

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Further information on handling**

Advices on general occupational hygiene: See section 8.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed and in a well-ventilated place.

Keep only in original container.

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

Suitable material for Container: Steel. Polyethylene (HDPE).

Unsuitable materials for Container: PVC (Polyvinyl chloride).

**Hints on joint storage**

Do not store together with: Gas. Explosive hazardous substances. Oxidising substances (solid). Oxidising substances (liquid). Radioactive substances. Infectious substances.

Keep away from food, drink and animal feedingstuffs.

**Further information on storage conditions**

Protect against: UV-radiation/sunlight. Heat.

**7.3. Specific end use(s)**

refer to section 1.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 4 of 9

**Additional advice on limit values**

Air limit values:

Possibility of exposure to Aerosol (Mineral oil)

Limit value (TLV-TWA) = 5 mg/m<sup>3</sup> - Source: ACGIHLimit value (TLV-STEL) = 10 mg/m<sup>3</sup> - Source: ACGIH

STEL: short-term exposure limits

TLV: Threshold Limiting Value

TWA: time weighted average

ACGIH: American Conference of Governmental Industrial Hygienists

Recommended monitoring procedures:

DIN/EN-Norms: EN 689, EN 14042, EN 482

**8.2. Exposure controls****Appropriate engineering controls**

Vapours / aerosols should be extracted by suction directly at point of origin.

**Protective and hygiene measures**

Always close containers tightly after the removal of product. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Take off contaminated clothing.

Do not put any product-impregnated cleaning rags into your trouser pockets.

**Eye/face protection**

Recommended eye protection articles: Eye glasses with side protection. BS/EN 166

**Hand protection**

In case of prolonged or frequently repeated skin contact: Wear suitable gloves. BS EN 374

Suitable material: NBR (Nitrile rubber). CR (polychloroprene, chloroprene rubber)

Thickness of the glove material: 0,35 mm

Breakthrough time &gt; 480 min.

Check leak tightness/impermeability prior to use. Breakthrough times and swelling properties of the material must be taken into consideration.

**Skin protection**

Protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

Generation/formation of aerosols

Recommended respiratory protection articles: Combination filtering device (EN 14387). Type: AP-2/3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

**Environmental exposure controls**

Do not allow uncontrolled discharge of product into the environment.

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 5 of 9

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Liquid		
Colour:	Golden		
Odour:	Characteristic		
pH-Value:		Test result	Test method
		Not determined	Not applicable
<b>Changes in the physical state</b>			
Melting point:		Not determined	Not applicable
Boiling point or initial boiling point and boiling range:		>371 °C	Not known
Pour point:		-27 °C	Not known
Flash point:		251 °C	Open Cup [Cleveland]
Sustaining combustion:		No data available	Not applicable
<b>Flammability</b>			
Solid/liquid:		Not applicable	
Gas:		Not applicable	
<b>Explosive properties</b>			
none			
Lower explosion limits:		Not determined	
Upper explosion limits:		Not determined	
Auto-ignition temperature:		Not determined	Not applicable
<b>Self-ignition temperature</b>			
Gas:		Not determined	
Decomposition temperature:		Not determined	Not applicable
<b>Oxidizing properties</b>			
none			
Vapour pressure:		< 0,1 hPa	Not known
(at 25 °C)			
Vapour pressure:			
Density (at 15 °C):	0,86 g/cm <sup>3</sup>	Not known	
Bulk density:	The product has not been tested.	Not applicable	
Water solubility:	Immiscible	Not applicable	
<b>Solubility in other solvents</b>			
Not determined			
Partition coefficient n-octanol/water:	The product has not been tested.		
Viscosity / dynamic:	6,1 mPa·s	calculated	
(at 100 °C)			
Viscosity / kinematic:	45-51 mm <sup>2</sup> /s	Not known	
(at 40 °C)			
Flow time:	Not determined	Not applicable	
Relative vapour density:	Not determined	Not applicable	
Evaporation rate:	Not determined	Not applicable	
Solvent separation test:	Not determined		
Solvent content:	Not determined		

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 6 of 9

**9.2. Other information**

Solid content: Not determined  
Auto-ignition temperature: Not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No information available.

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Reacts with : Oxidizing agents, strong.

**10.4. Conditions to avoid**

UV-radiation/sunlight. Heat

**10.5. Incompatible materials**

Oxidizing agents, strong.

**10.6. Hazardous decomposition products**

Can be released in case of fire: Carbon dioxide (CO2). Carbon monoxide. Nitrogen oxides (NOx). Sulfur oxides.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No information available.

**Acute toxicity**

Based on available data, the classification criteria are not met.

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

**11.2. Information on other hazards****Endocrine disrupting properties**

No information available.

**SECTION 12: Ecological information****12.1. Toxicity**

The product has not been tested.

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 7 of 9

**12.2. Persistence and degradability**

Due to its low solubility in water the product is almost completely mechanically separated in biological sewage plants.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

No data available

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste codes/waste designations according to (EWC) European Waste Catalogue.

**List of Wastes Code - residues/unused products**

130206 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste engine, gear and lubricating oils; synthetic engine, gear and lubricating oils; hazardous waste

**List of Wastes Code - used product**

130206 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste engine, gear and lubricating oils; synthetic engine, gear and lubricating oils; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b><u>14.1. UN number:</u></b>	No dangerous good in sense of these transport regulations.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of these transport regulations.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of these transport regulations.
<b><u>14.4. Packing group:</u></b>	No dangerous good in sense of these transport regulations.

**Inland waterways transport (ADN)**

<b><u>14.1. UN number:</u></b>	No dangerous good in sense of these transport regulations.
<b><u>14.2. UN proper shipping name:</u></b>	No dangerous good in sense of these transport regulations.
<b><u>14.3. Transport hazard class(es):</u></b>	No dangerous good in sense of these transport regulations.

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 8 of 9

<b>14.4. Packing group:</b>	No dangerous good in sense of these transport regulations.
<b>Marine transport (IMDG)</b>	
<b>14.1. UN number:</b>	No dangerous good in sense of these transport regulations.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of these transport regulations.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of these transport regulations.
<b>14.4. Packing group:</b>	-
<b>Air transport (ICAO-TI/IATA-DGR)</b>	
<b>14.1. UN number:</b>	No dangerous good in sense of these transport regulations.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of these transport regulations.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of these transport regulations.
<b>14.4. Packing group:</b>	-
<b>14.5. Environmental hazards</b>	
ENVIRONMENTALLY HAZARDOUS:	No
<b>14.6. Special precautions for user</b>	
See section 8.	
<b>14.7. Maritime transport in bulk according to IMO instruments</b>	
Not relevant	

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

2010/75/EU (VOC):	Not determined
2004/42/EC (VOC):	Not determined
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

**Additional information**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)  
The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].  
REACH 1907/2006 appendix XVII: Not relevant (Mixtures)

**National regulatory information**

Water hazard class (D):	2 - obviously hazardous to water
-------------------------	----------------------------------

**15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:

**SECTION 16: Other information****Changes**

Rev. 19.00; 01.06.2015, Initial release  
Rev. 20.00; 29.11.2017, Changes in chapter: 2, 3, 4, 7, 9, 10, 11, 12, 15, 16  
Rev. 21.00; 20.08.2019, Changes in chapter: 2, 3 ,9, 11, 12, 15, 16  
Rev. 22.00; 06.04.2021, Changes in chapter: 3, 4, 6, 11, 12, 15, 16

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
CAS: Chemical Abstracts Service  
CLP: Classification, Labelling and Packaging of substances and mixtures  
DNEL: Derived No Effect Level  
d: day(s)

**KAESER Sigma Fluid S-460**

Revision date: 06.04.2021

Page 9 of 9

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NLP: No-Longer Polymers

N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

**Further Information**

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*