SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

KAESER Sigma S-150

Further trade names

KAESER Sigma S-150 (synthetic oil for reciprocating compressors), 9.0846.0, 9.0846.00010, 9.0846.00020

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

Use of the substance/mixture

cooling lubricant for piston 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

EUH066	Repeated exposure may cause skin dryness or cracking.
EUH210	Safety data sheet available on request.
	7,5 % of the mixture consists of ingredient(s) of unknown acute toxicity (inhalation).
	5,3 % of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
	5.3 % of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
	Contains 2,2 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

For information or further instructions, see also section 11 or 12.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)			10 - < 25 %
	Asp. Tox. 1; H304 EUH066			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
9003-29-6		Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	10 - < 25 %
	inhalation: LC50 = [>19,17] mg/l (vapours); dermal: LD50 = >2000 mg/kg; oral: LD50 = >10000 mg/kg		

Further Information

Product does not contain listed SVHC substances > 0.1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

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

After 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. Observe risk of aspiration if vomiting occurs. 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 information available.
Inhalation: No information available.
Skin contact: Has de-greasing effect on the skin.
ingestion.: No information available.

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

General advice

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

General protection and hygiene measures: 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.

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

Additional advice on limit values

Air limit values:
Possibility of exposure to Aerosol (Mineral oil)
Limit value (TLV-TWA) = 5 mg/m3 - Source: ACGIH
Limit value (TLV-STEL) = 10 mg/m3 - 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. EN 166

Hand protection

In case of prolonged or frequently repeated skin contact: Wear suitable gloves. EN 374
Suitable material: NBR (Nitrile rubber).
Thickness of the glove material: 0,35 mm
Breakthrough time > 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. DIN-/EN-Norms: 469
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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Golden
Odour:	Characteristic

	Test result	Test method
pH-Value:	Not determined	Not applicable
Changes in the physical state		
Melting point/freezing point:	Not determined	Not applicable
Boiling point or initial boiling point and boiling range:	>371 °C	Not known
Pour point:	-39 °C	Not known -
Flash point:	>249 °C	Open Cup [Cleveland]
Sustaining combustion:	No data available	Not applicable
Flammability		
Solid/liquid:	Not applicable	
Explosive properties		
none		
Lower explosion limits:	Not determined	
Upper explosion limits:	Not determined	
Auto-ignition temperature:	Not determined	Not applicable
Self-ignition temperature		
Gas:	Not determined	
Decomposition temperature:	Not determined	Not applicable
Oxidizing properties		
none		
Vapour pressure: (at 25 °C)	<0,1 hPa	Not applicable
Vapour pressure:		
Density (at 15 °C):	0,94 g/cm³	Not known
Bulk density:	The product has not been tested.	Not applicable
Water solubility:	not miscible	Not applicable
Solubility in other solvents		
Not determined		
Partition coefficient n-octanol/water:	The product has not been tested.	
Viscosity / dynamic: (at 100 °C)	11,6 mPa·s	calculated.

Viscosity / kinematic: (at 40 °C)	168-188 mm²/s	Not known
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	

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

Toxicocinetics, metabolism and distribution

No information available.

Acute toxicity

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

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)					
	oral	LD50 mg/kg	>10000	Rat	ECHA Dossier	OECD 401
	dermal	LD50 mg/kg	>2000	Rat	ECHA Dossier	OECD 402
	inhalation (4 h) vapour	LC50 mg/l	[>19,17]	Rat	ECHA Dossier	EPA OPPTS 870.1300

Irritation and corrosivity

Based on available data, the classification criteria are not met.
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene):
Serious eye damage/eye irritation:
Method: OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Species: Rabbit
Result / evaluation: Not an irritant. Literature information: ECHA Dossier

Sensitising effects

Based on available data, the classification criteria are not met.
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene):
Skin sensitisation:
Method: OECD Guideline 406
Species: Guinea pig
Result / evaluation: not sensitising. Literature information: ECHA Dossier

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene):
In-vitro mutagenicity:
Method: OECD Guideline 471, OECD Guideline 473
Result: negative. Literature information: ECHA Dossier
In-vivo mutagenicity:
Method: OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Result: negative. Literature information: ECHA Dossier
Reproductive toxicity:
Method: OECD Guideline 421
Species: Rat. Exposure route: oral.
Result: NOAEL (P) = 1000 mg/kg. NOAEL (F1) = 1000 mg/kg. Literature information: ECHA Dossier
Developmental toxicity/teratogenicity:
Method: OECD Guideline 422
Species: Rat. Exposure route: oral.
Result: NOAEL > 1000 mg/kg. Literature information: ECHA Dossier

STOT-single exposure

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

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene):
Subchronic oral toxicity:
Method: OECD Guideline 408
Species: Rat
Exposure time: 90 d.
Result: NOAEL >= 1000 mg/kg; Literature information: ECHA Dossier
Subchronic inhalation toxicity:
Method: -
Species: Rat
Exposure time: OECD Guideline 413
Result / evaluation: NOEC = 1000 mg/m³. Literature information: ECHA Dossier

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

CAS No	Chemical name

	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)					
	Acute algae toxicity	ErC50 >19,2 mg/l	72 h	Desmodesmus subspicatus (OECD 201)	ECHA Dossier	OECD 201

12.2. Persistence and degradability

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

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)			
	OECD Guideline 310	93,9 %	28	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	7,6-7,8

BCF

CAS No	Chemical name	BCF	Species	Source
9003-29-6	Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	920-3340	Carp	ECHA Dossier

12.4. Mobility in soil

No data 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.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

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)

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

Inland waterways transport (ADN)

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

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name:	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es):	No dangerous good in sense of these transport regulations.
14.4. Packing group:	-
Hazard label:	-

Air transport (ICAO-TI/IATA-DGR)

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

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	No
Danger releasing substance:	Not relevant

14.6. Special precautions for user

See section 8.

14.7. Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 52

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: 52 (1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich)

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 8.00; 01.06.2015, Initial release
Rev. 9.00; 29.11.2017, Changes in chapter: 2, 3, 4, 9, 11, 12, 15, 16
Rev. 10.00; 20.08.2019, Changes in chapter: 2, 3, 7, 8, 9, 11, 12, 15, 16
Rev. 11.00; 06.04.2021, Changes in chapter: 3, 4, 6, 11, 12, 15, 16
Rev. 12.00; 29.03.2023, Changes in chapter: 2, 8, 9, 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)
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

Relevant H and EUH statements (number and full text)

H304	May be fatal if swallowed and enters airways.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH210	Safety data sheet available on request.

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.)