1. Identity of product and supplier

1.1 Product trade name: KAESER screw compressor cooling oil, Sigma Fluid S-570, 9.6771.0, 9.6771.00010, 9.6771.00020, 9.6771.00030, 9.6771.00040, 9.6771.00050, 9.6771.00060

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

Usage of the substance/mixture: Cooling oil
Recommended limitations of use: Only industrial users/specialists

1.3 Supplier providing the safety data sheet

Supplier: Kaeser Compressors Canada Inc.
3760 La Vérendrye
Boisbriand, QC J7H 1R5
CANADA
Tel.: +1/450-971-1414
Email: msds.ca@kaeser.com
Technical information: Phone: +1/450-971-1414

1.4 Emergency telephone number: +1/514-895-3176

Application: Cooling oil with corrosion inhibitor

2. Possible Hazards/Effects on Health

2.1 Classification of the substance or mixture

Classification (Regulation (EC No. 1272/2008)
Chronic aquatic toxicity, category 3: H412: Harmful to aquatic life with long lasting effects

Classification (67/548/EEC, 1999/45/EC)
Dangerous to the environment R52/53: Damaging to organisms, can have long-term damaging effects in water.

2.2 Label elements

Classification (Regulation (EC) No. 1272/2008)

Hazard phrases: H412: Harmful to aquatic life with long lasting effects

Safety instructions: **Prevention:** P273 Avoid release to the environment
Disposal: P501 Content/container to be disposed at a recognised waste disposal site

2.3 Other hazards
Read and understand all safety instructions prior to use.

3. Composition / information on ingredients

3.2 Mixtures
Hazardous components

Chemical description	CAS No./ EC No./ Register No.	Classification (67/548/EEC)	Classification (Regulation (EC No. 1272/2008)	Concentration [%]
Benzolamine, N-Phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1 / 270-128-1 / -	R52/53:	Aquatic Chronic 3; H412	< 10
3,5-Di-Tert-Butyl-4-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester	125643-61-0 / 406-040-9 / -	R53	Aquatic Chronic 4; H412	< 10
Triphenyl phosphate	115-86-6 / 204-112-2 -	N; R50/53	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	> 0.25 - < 2.5

Please refer to section 16 for the full text of each R phrases shown is listed. Section 16 provides the full text of the hazard warnings shown in this section.

4. First Aid Measures

4.1 Description of first-aid measures

General instructions:
No specific first-aid measures required.

Inhalation:
Remove to fresh air upon inhalation of combustion gases, decomposition products or dust. Seek medical advice if breathing remains difficult.

Skin contact:
Remove contaminated clothing and shoes. Wash with soap and plenty of water.

Eye contact:
As a precaution, rinse thoroughly with water. Remove contact lenses. Protect unaffected eye. Keep eye wide open during rinsing. Seek specialist medical advice if irritation persists.

Ingestion:
Rinse the mouth with water and drink plenty of water. Do not administer milk or alcoholic beverages. Never orally infuse a liquid to an unconscious person. Seek medical advice if breathing remains difficult.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms:None known

4.3 Indication of any immediate medical attention and special treatment needed
Treatment: The physician should contact the poisons information centre to obtain specialist advice.

5. Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
Adjust the fire-fighting measures to the actual environment.

5.2 Special hazards arising from the substance or mixture
Specific hazards during fire fighting: Burning produces obnoxious and toxic smoke.

5.3 Advice for firefighters
Special protective equipment for fire-fighting: Wear self-contained breathing apparatus.

Further information:
Collect contaminated extinguishing water separately – it must not escape into the sewage system.
Combustion residue and contaminated water must be disposed of according to local regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:
Personal precautions Wear appropriate personal protective equipment.

6.2 Environmental precautions
Environment protection measures: Inform the appropriate authority of any spillage of product into surface water or sewage systems.

6.3 Methods and materials for containment and cleaning up
Cleaning: Wipe up with adsorbent material (e.g. cloth, fleece). For disposal, fill into suitable and sealable containers.

6.4 Reference to other sections
For protective measures, see sections 7 and 8.

7. Handling and Storage

7.1 Precautions for safe storage:
Notes on safe handling: See section 8 for personal protective equipment. Dispose of cleaning water as specified by local and national regulations.

Instructions on fire and explosion prevention: Common measures for preventative fire protection.

7.2 Conditions for safe storage, including any incompatibilities:
Storage room and container requirements: Store containers tightly sealed in a dry and well ventilated room.

Other Information: No decomposition under correct storage and use.

7.3 Specific applications
Specific application(s): Industrial raw material.

8. Limits of exposure and personal protective equipment

8.1 Parameters to be monitored

Does not contain substances with occupational exposure limit values.

DNEL:
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:

Field of application: Employee
Means of exposure: Skin-contact
Potential health damages: Chronic effects, systemic effects
Value: 0.62 mg/kg

Field of application: Employee
Means of exposure: Inhalation
Potential health damages: Chronic effects, systemic effects
Value: 4.37 mg/m³

Field of application: General exposure
Means of exposure: Skin-contact
Potential health damages: Chronic effects, systemic effects
Value: 0.31 mg/kg

Field of application: General exposure
Means of exposure: Inhalation
Potential health damages: Chronic effects, systemic effects
Value: 1.09 mg/m³

Field of application: General exposure
Means of exposure: Ingestion
Potential health damages: Chronic effects, systemic effects
Value: 0.31 mg/m³

PNEC
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:

Fresh water
Value: 0.051 mg/l

Sea water
Value: 0.0051 mg/l

Fresh water sediment
Value: 9320 mg/kg

Sea water sediment
Value: 932 mg/kg

Floor
Value: 1860 mg/kg

STP
Value: 1 mg/l

8.2 Exposition controls

Technical safety measures

Ensure that eye wash bottles and safety showers are provided close to the workstation. Effective extraction.

Personal protective equipment

Respiratory protection:
Respiratory protection with filter for organic vapours

Hand protection:
Wear protective gloves from polyvinyl alcohol or nitrile butyl rubber. The protective gloves must meet the specifications of EC Directive 89/686/EEC and the resulting standard EN 374. Prior to removing the gloves, clean with water and soap.

Eye protection:
Eyewash bottle containing pure water. Tightly sealed protective glasses.

Skin and body protection:
Impermeable protective clothing: Select the body protection according to the quantity and concentration of the hazardous substance in the workplace.

Specific hygiene measures:
Observe normal procedures for handling chemicals. Wash hands before breaks and at the end of working day.

Environmental exposition controls
General instructions:
Inform the appropriate authority of any spillage of product into surface water or sewage systems.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Colour:	Yellow
Odour:	Mildly hydrocarbonic
Odour threshold:	No data available.
Flash point	258° C (496.4° F) (Method: ASTM D92)
Ignition point:	No data available.
Lower explosion threshold:	No data available.
Upper explosion threshold:	No data available.
Flammability (solid, gaseous)	No data available.
Auto-ignition temperature:	No data available.
pH value:	No data available.
Pour point (setting/melting point)	- 54° C
Vapour pressure	No data available
Density	869 kg/m³ (0.869 g/cm³)
Relative density	No data available
Solubility in solvents:	No data available
Distribution coefficient: n-Octanol/water	No data available
Solubility in other solvents:	No data available
Kinematic viscosity (40°C)	52.8 mm²/s (cSt) (Method: ASTM D 445)
Kinematic viscosity (100°C)	8.0 mm²/s (cSt) (Method: ASTM D 445)
Relative vapour density	No data available
Vaporisation speed	No data available

9.2 Further information

Oxidising potential	Remark: No data available

10. Stability and reactivity

10.1 Reactivity
Stable when stored as specified.

10.2 Chemical stability
No decomposition under correct storage and use.

10.3 Potential of dangerous reactions:
Dangerous reactions: Remark: None, when used correctly.

10.4 Conditions to avoid:
Conditions to avoid: Contamination

10.5 Incompatible materials:
Substances to avoid: Oxidising agents

10.6 Hazardous decomposition products:
Hazardous decomposition products: Carbon oxides, nitrogen oxides (NOx)

11. Toxicological information

11.1 Information on toxicological effects
Acute toxicity

Acute oral toxicity:
Remarks: Not classified for lack of data.

Acute oral toxicity:
Benzolamine, N-Phenyl-, reaction products with 2,4,4-trimethylpentene:
LD50: > 2,000 mg/kg, species: rat, method: OECD testing directive 401

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
LD50: > 2,000 mg/kg, species: rat

Triphenyl phosphate
LD50: > 2,000 mg/kg, species: rat

Acute toxicity due to inhalation:
Remarks: Not classified for lack of data.

Acute toxicity due to inhalation:

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
Remarks: No data available.

Triphenyl phosphate
LC50: > 200 mg/l, exposure time: 1 h, rat

Acute dermal toxicity:
Remarks: Not classified for lack of data.

Acute dermal toxicity:
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
LD50: > 2,000 mg/kg, species: rat

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
LD50: > 2,000 mg/kg, species: rabbit

Triphenyl phosphate
LD50: > 7,900 mg/kg, species: rabbit

Caustic/irritating effects on the skin
Skin irritation:
Remarks: According to the EU criteria, the product does not cause irritations to the skin.

Skin irritation:
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
Species: rabbit, result: No skin irritation, method: OECD testing directive 404

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
Species: rabbit, result: No irritation to the skin.

Triphenyl phosphate
Species: rabbit, result: No skin irritation, method: OECD testing directive 404, exposure time: 4 h

Severe eye damage/irritation
Eye irritation
Remarks: According to the EU criteria, the product does not cause irritations to the eyes.

Eye irritation
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
Species: rabbit, result: No eye irritation, method: OECD testing directive 405

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
Species: rabbit, result: No irritation to the the eyes

Triphenyl phosphate
Species: rabbit, result: No eye irritation, method: OECD testing directive 405

Sensitisation of airways/skin
Sensitisation
Remarks: Not classified for lack of data.

Sensitisation
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
Species: guinea pig, classification: Does not cause sensitisation in lab animals, method: OECD testing directive 406

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
Maximisation test (GPMT), Species: guinea pig, classification and result: Does not cause sensitisation in lab animals.

Triphenyl phosphate
Maximisation test (GPMT), Species: guinea pig, classification: Does not cause sensitisation in lab animals, method: OECD testing directive 406

Mutagenicity:
Triphenyl phosphate
Ames test, result: negative; in vitro test, result: negative; Unprogrammed DNA synthesis (UDS), result: negative

Mutagenicity – assessment:
Remarks: Not classified for lack of data.

Carcinogenicity – assessment:
Remarks: Not classified for lack of data.

Reproductive toxicity – assessment:
Remarks: Not classified for lack of data.

Target organ systemic toxin – singular exposure
Remarks: Not classified for lack of data.

Target organ systemic toxin – repeated exposure
Remarks: Not classified for lack of data.

Aspiration hazard
Aspiration toxicity: No classification in respect to aspiration toxicity.

Toxicity assessment
Further information: No data available

12. Ecological information

12.1 Toxicity

Toxicity in fish:
Remarks: No data available

Toxicity in fish:
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
LC50: > 71 mg/l, exposure time: 96 h, Danio rerio (zebra fish), method: OECD testing directive 203

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
LC50: > 74 mg/l, exposure time: 96 h, Danio rerio (zebra fish)

Triphenyl phosphate
LC50: 0.78 mg/l, exposure time: 96 h, Lepomis macrochirus (bluegill), static test
LC50: 1.2 mg/l, exposure time: 96 h, Oryzias lapites (red killi fish), static test:

Toxicity in daphnias and other invertebrate aquatic organisms
Remarks: No data available

Toxicity in daphnias and other invertebrate aquatic organisms
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
EC50: 51 mg/l, exposure time: 48 h, Daphnia magna (freshwater flea), method: OECD testing directive 202

Triphenyl phosphate
EC50: 1 mg/l, exposure time: 48 h, Daphnia magna (freshwater flea)
EC50: 0.36 mg/l, exposure time: 48 h

Chronic toxicity in fish
Triphenyl phosphate
NOEC: 0.037 mg/l, exposure time: 30 h, Oncorhynchus mykiss (rainbow trout)

12.2 Persistence and degradability

Bio-degradability
Result: No data available

Bio-degradability
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
Result: Tests show the product not to be easily bio-degraded. Methods: CO_2 development test

3, 5-Di-Tert-Butyl-4-hydroxy-Hydrocinnamic Acid, C7-C9-Branched Alkyl Ester:
Result: Not easily biodegradable.

Triphenyl phosphate
Aerobic, result: Easily biologically degradable. 83 - 94%, method: OECD testing directive 301

12.3 Bioaccumulation potential

Bioaccumulation:
Remarks: No data available

Bioaccumulation:
Triphenyl phosphate
Species: Oryzias lapites (red killi fish), exposure time: 18 d, temperature: 25°C, concentration: 0.01 mg/l, bio concentration factor (BCF): 144

12.4 Mobility in soil

Mobility
Remarks: No data available

12.5 Results of PBT and vPvB assessment

The mixture contains only substances that are not persistent, bioaccumulative or toxic (PBT).

12.6 Other adverse effects

Further ecological information:
A threat to the environment cannot be excluded when the product is handled or disposed of improperly. Damaging to organisms, can have long-term damaging effects in water.

Further ecological information:
Benzolamine, N-Phenyl reaction products with 2,4,4-trimethylpentene:
Damaging to organisms, can have long-term damaging effects in water. Avoid contamination of the ground water with this material. Do not allow to flow into surface water or gullies.

13. Notes on disposal

13.1 Waste treatment methods

Product:
Prevent any escape of the product into the sewage system, open water or soil. Do not contaminate open water with the chemical or packaging material. Deliver residual quantities and non-recyclable solutions to a recognised disposal company.

AVV waste code number: 130206* synthetic machine, gear and lubricating oils.

Contaminated packaging:
Empty residue. Dispose of in the same manner used for unused product. Do not reuse empty containers.

14. Transport Information

ADR/RID	No hazardous good
IATA-DGR, ICAO-TI	No hazardous good
IMDG-Code	No hazardous good

Special instructions for the user:
Non-hazardous as far as transport regulations are concerned.

15. Regulations

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

National regulations (Germany):
Water hazard class1 slightly water hazardous

Registration status

US.TSCA:	On the TSCA list
DSL:	All components of this products are listed on the Canadian DSL list.
AICS:	Listed or meets prerequisites.
NZIoC	Does not meet the prerequisites of the list.
ENCS	Does not meet the prerequisites of the list.
KECI	Listed or meets prerequisites.
PICCS	Listed or meets prerequisites.
IECSC	Does not meet the prerequisites of the list.

15.2 Chemical safety assessment
No data available.

16. Further information

Complete wording of the R phrases shown in sections 2 and 3

R 50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 52/53:	Damaging to organisms, can have long-term damaging effects in water.
R 53:	Can have long term damaging effect in water.

Full text of hazard warnings in sections 2 and 3

H400:	Very toxic to aquatic organisms.
H410:	Very toxic to aquatic organisms with long lasting effects.
H412:	Harmful to aquatic life with long lasting effects
H413:	May be harmful to aquatic organisms with long lasting effects

Further information:

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.