

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

# FRAGOL

## FRAGOLTHERM 680

Version number: 2.0  
Replaces version of: 2019-12-16 (1)

Revision: 2021-03-08

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

#### 1.1 Product identifier

Trade name	<b>FRAGOLTHERM 680</b>
Registration number (REACH)	not relevant (mixture)
Unique formula identifier (UFI)	G110-801T-200T-S7G9

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

Relevant identified uses	Heat transfer fluid Professional use Industrial use
Uses advised against	Do not use for private purposes (household)

#### 1.3 Details of the supplier of the safety data sheet

FRAGOL AG  
Solinger Straße 16  
D-45481 Mülheim  
Germany

Telephone: +49 (0)208-300 02-50  
Telefax: +49 (0)208-300 02-33  
e-mail: [htf@fragol.de](mailto:htf@fragol.de)  
Website: [www.fragol.de](http://www.fragol.de)

e-mail (competent person) [htf@fragol.de](mailto:htf@fragol.de)

#### 1.4 Emergency telephone number

Emergency information service +49 (0)208-300 02-50  
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre		
Country	Name	Telephone
Germany	Giftnotruf der Charité - Universitätsmedizin Berlin	+49 (0)30 30686 700 (Tag und Nacht)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

The substance was identified as a PBT (persistent, bioaccumulative and toxic)  
The substance was identified as a vPvB (very persistent and very bioaccumulative)

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Spillage and fire water can cause pollution of watercourses. The mixture contains a substance that was identified as a PBT (persistent, bioaccumulative and toxic). The mixture contains a substance that was identified as vPvB (very persistent and very bioaccumulative).

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### Additional information

Containing a PBT-/vPvB-substance in a concentration of  $\geq 0,1\%$ .

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word                      Warning

- pictograms

GHS07, GHS09



- hazard statements

H319                                  Causes serious eye irritation.  
H411                                  Toxic to aquatic life with long lasting effects.

- precautionary statements

P264                                  Wash hands thoroughly after handling.  
P273                                  Avoid release to the environment.  
P280                                  Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338                  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
  
P337+P313                          If eye irritation persists: Get medical advice/attention.  
P391                                  Collect spillage.  
P501                                  Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

Special danger of slipping by leaking/spilling product.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

The product does not contain any other ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Terphenyl, hydrogenated	CAS No 61788-32-7  EC No 262-967-7  REACH Reg. No 01-2119488183- 33-xxxx	75 - < 90	Aquatic Chronic 2 / H411		IOELV PBT vPvB
Diphenyl ether	CAS No 101-84-8  EC No 202-981-2  REACH Reg. No 01-2119472545- 33-xxxx	10 - < 25	Eye Irrit. 2 / H319 Aquatic Acute 1 / H400 Aquatic Chronic 3 / H412		IOELV

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
biphenyl	CAS No 92-52-4  EC No 202-163-5  Index No 601-042-00-8  REACH Reg. No 01-2119480408- 33-xxxx	5 - < 10	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		GHS-HC

### Notes

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

PBT: The substance was identified as a PBT (persistent, bioaccumulative and toxic)

vPvB: The substance was identified as a vPvB (very persistent and very bioaccumulative)

### Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

#### Following skin contact

Take off contaminated clothing. After contact with skin, wash immediately with plenty of water and soap.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

#### Following ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

Observe aspiration hazard if vomiting occurs.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. For specialist advice physicians should contact the poison centre.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, Dry extinguishing powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet.

#### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Wear suitable protective clothing and gloves.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

#### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Keep away from sources of ignition - No smoking. Use only in well-ventilated areas. Take precautionary measures against static discharge.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from oxidizing substances. Keep away from reducing substances.

Control of effects

Protect against external exposure, such as

Heat. High temperatures. UV-radiation/sunlight. Static discharges.

Consideration of other advice

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

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

#### 7.3 Specific end use(s)

Heat transfer fluids.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Notation	Source
DE	diphenyl ether	101-84-8	MAK	1	7,1	1	7,1	va	DFG
DE	diphenyl ether	101-84-8	AGW	1	7,1	1	7,1	va, Y	TRGS 900
DE	terphenyl, hydrogenated	61788-32-7	AGW		19		47,5	i	TRGS 900
EU	diphenyl ether	101-84-8	IOELV	1	7	2	14		2017/164/EU
EU	terphenyl, hydrogenated	61788-32-7	IOELV	2	19	5	48		2017/164/EU

Notation

i

inhalable fraction

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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### Notation

va as vapours and aerosols  
Y a risk of developmental toxicity does not need to be expected if the occupational exposure limit value and the biological limit value (BGW) are adhered to

### Relevant DNELs/DMELs/PNECs and other threshold levels

No data available.

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Terphenyl, hydrogenated	61788-32-7	DNEL	8,38 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Terphenyl, hydrogenated	61788-32-7	DNEL	83,8 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Terphenyl, hydrogenated	61788-32-7	DNEL	46,3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Terphenyl, hydrogenated	61788-32-7	DNEL	2,5 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - systemic effects
Terphenyl, hydrogenated	61788-32-7	DNEL	25 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - local effects
Terphenyl, hydrogenated	61788-32-7	DNEL	27,8 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Terphenyl, hydrogenated	61788-32-7	DNEL	0,3 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Diphenyl ether	101-84-8	DNEL	59 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Diphenyl ether	101-84-8	DNEL	7 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Diphenyl ether	101-84-8	DNEL	14 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
Diphenyl ether	101-84-8	DNEL	25 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
biphenyl	92-52-4	DNEL	11,17 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
biphenyl	92-52-4	DNEL	63 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
biphenyl	92-52-4	DNEL	3,3 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - systemic effects
biphenyl	92-52-4	DNEL	38 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
biphenyl	92-52-4	DNEL	1,9 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Terphenyl, hydrogenated	61788-32-7	PNEC	0,001 mg/l	aquatic organisms	water	intermittent release

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Terphenyl, hydrogenated	61788-32-7	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
Terphenyl, hydrogenated	61788-32-7	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Terphenyl, hydrogenated	61788-32-7	PNEC	10,3 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Terphenyl, hydrogenated	61788-32-7	PNEC	3,16 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Terphenyl, hydrogenated	61788-32-7	PNEC	0,316 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Terphenyl, hydrogenated	61788-32-7	PNEC	0,631 mg/kg	terrestrial organisms	soil	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	0,093 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	0,009 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Diphenyl ether	101-84-8	PNEC	0,018 mg/kg	terrestrial organisms	soil	short-term (single instance)
biphenyl	92-52-4	PNEC	0,017 mg/l	aquatic organisms	freshwater	short-term (single instance)
biphenyl	92-52-4	PNEC	0,002 mg/l	aquatic organisms	marine water	short-term (single instance)
biphenyl	92-52-4	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
biphenyl	92-52-4	PNEC	2,69 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
biphenyl	92-52-4	PNEC	0,269 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
biphenyl	92-52-4	PNEC	0,528 mg/kg	terrestrial organisms	soil	short-term (single instance)

## 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection (EN 166).

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### Skin protection

Protective clothing against liquid chemicals. Wear protective clothing for protection against heat and flame.

### - hand protection



Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. ATTENTION: Wearing moisture-proof gloves (occlusion) for longer than 4 hours is defined as a risk in Germany.

### - type of material

Nitrile

### - material thickness

use gloves with a minimum material thickness: 0,4 mm

### - breakthrough times of the glove material

Use gloves with a minimum breakthrough times of the glove material: >30 minutes (permeation: level 2).

### - other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Breathing apparatus only in case of aerosol or mist formation.

### Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	light yellow
Odour	characteristic - not determined
Melting point/freezing point	<-38 °C
Boiling point or initial boiling point and boiling range	309 °C at 1.013 mbar
Flammability	not relevant (fluid)
Lower and upper explosion limit	LEL: 0,6 vol% UEL: 5,6 vol% calculated value, referring to a component of the mixture
Flash point	139 °C (DIN EN ISO 2719)
Auto-ignition temperature	not determined
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	12,9 mm <sup>2</sup> /s at 40 °C



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### Solubility(ies)

Water solubility	insoluble
Partition coefficient n-octanol/water (log value)	this information is not available
Vapour pressure	not determined
Density	1.025 kg/m <sup>3</sup> at 20 °C
Particle characteristics	not relevant (liquid)

### 9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Shall not be classified as acutely toxic.

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### - acute toxicity of components of the mixture

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Terphenyl, hydrogenated	61788-32-7	oral	LD50	>10.000 mg/kg	rat
Terphenyl, hydrogenated	61788-32-7	inhalation: dust/ mist	LC50	>4,7 mg/l/4h	rat
Terphenyl, hydrogenated	61788-32-7	dermal	LD50	>2.000 mg/kg	rabbit
Diphenyl ether	101-84-8	dermal	LD50	>7.940 mg/kg	rabbit
biphenyl	92-52-4	oral	LD50	2.180 – 5.040 mg/kg	rat
biphenyl	92-52-4	dermal	LD50	>5.010 mg/kg	rabbit
biphenyl	92-52-4	inhalation: vapour	LC50	>3,47 mg/l/1h	rat

### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin. May cause slight irritation.

### Serious eye damage/eye irritation

Causes serious eye irritation. May cause slight irritation.

### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## 11.2 Information on other hazards

There is no additional information.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

Acc. to 1272/2008/EC: Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Terphenyl, hydrogenated	61788-32-7	LC50	>1.000 mg/l	rainbow trout ( <i>Oncorhynchus mykiss</i> )	96 h
Terphenyl, hydrogenated	61788-32-7	EC50	>0,1 mg/l	daphnia magna	48 h
Terphenyl, hydrogenated	61788-32-7	EC50	56 mg/l	aquatic plants	72 h
Diphenyl ether	101-84-8	LC50	10 mg/l	fish	24 h
Diphenyl ether	101-84-8	EC50	2,92 mg/l	aquatic invertebrates	24 h
Diphenyl ether	101-84-8	ErC50	0,58 mg/l	algae	72 h
Diphenyl ether	101-84-8	NOEC	3,2 mg/l	fish	96 h
biphenyl	92-52-4	EC50	1,3 mg/l	algae	72 h
biphenyl	92-52-4	EC50	0,78 mg/l	microalga ( <i>Pseudokirchnerella subcapitata</i> )	72 h
biphenyl	92-52-4	EC50	46,3 mg/l	bacteria	96 h
biphenyl	92-52-4	LC50	3 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Terphenyl, hydrogenated	61788-32-7	NOEC	103 mg/l	microorganisms	3 h
Diphenyl ether	101-84-8	LC50	10 mg/l	fish	24 h
Diphenyl ether	101-84-8	EC50	>100 mg/l	microorganisms	3 h
Diphenyl ether	101-84-8	NOEC	0,76 mg/l	aquatic invertebrates	24 h
biphenyl	92-52-4	NOEC	0,229 mg/l	fish	87 d
biphenyl	92-52-4	LOEC	0,332 mg/l	fish	87 d

#### 12.2 Persistence and degradability

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Diphenyl ether	101-84-8	oxygen depletion	64 %	5 d		ECHA
biphenyl	92-52-4	biotic/abiotic	70 %	28 d		Supplier
biphenyl	92-52-4	oxygen depletion	66 %	14 d		ECHA

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### 12.3 Bioaccumulative potential

The substance fulfils the very bioaccumulative criterion. The bioaccumulation potential is low.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Terphenyl, hydrogenated	61788-32-7	2.000	>6,5	
Diphenyl ether	101-84-8	196	4,21 (25 °C)	
biphenyl	92-52-4	1.900	4,008 (25 °C)	

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

The mixture contains a substance that was identified as a PBT (persistent, bioaccumulative and toxic). The mixture contains a substance that was identified as vPvB (very persistent and very bioaccumulative).

### 12.6 Endocrine disrupting properties

The mixture contains substance(s) with an endocrine disrupting potential.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself.

#### Relevant provisions relating to waste

List of wastes

For this product, no waste code number can be defined according to the European Waste List (EAK), as only the intended use by the consumer permits allocation. The waste code number shall be determined in accordance with the European waste list (Commission Decisions 200/532 / EC and 2001/118 / EC) in consultation with the waste disposal / manufacturer / authority

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR/RID/ADN UN 3082

IMDG-Code UN 3082

ICAO-TI UN 3082

### 14.2 UN proper shipping name

ADR/RID/ADN ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

# Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

# FRAGOL

## FRAGOL THERM 680



Version number: 2.0  
Replaces version of: 2019-12-16 (1)

Revision: 2021-03-08



ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (Hazardous ingredients)	Terphenyl, hydrogenated, Diphenyl ether
<b>14.3 Transport hazard class(es)</b>	
ADR/RID/ADN	9
IMDG-Code	9
ICAO-TI	9
<b>14.4 Packing group</b>	
ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III
<b>14.5 Environmental hazards</b>	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	Terphenyl, hydrogenated, Diphenyl ether
<b>14.6 Special precautions for user</b>	
Provisions for dangerous goods (ADR) should be complied within the premises.	
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	
Not applicable.	

### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code	M6
Danger label(s)	9, fish and tree
 	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	(-)
Hazard identification No	90

#### International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	yes (hazardous to the aquatic environment) (Terphenyl, hydrogenated)
Danger label(s)	9, fish and tree
 	
Special provisions (SP)	274, 335, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F

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Stowage category	A
<b>International Civil Aviation Organization (ICAO-IATA/DGR) - additional information</b>	
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree
	
Special provisions (SP)	A97, A158, A197
Exempted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

### SECTION 15: Regulatory information

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

##### Relevant provisions of the European Union (EU)

##### Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	CAS No	Type of registration	No
FRAGOL THERM 680	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		1907/2006/EC annex XVII	3

##### List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Substance of Very High Concern (SVHC)			
Name acc. to inventory	CAS No	Listed in	Remarks
terphenyl, hydrogenated	61788-32-7	Candidate list	vPvB A57e

##### Legend

candidate list      Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV  
vPvB A57e      Very Persistent and very Bioaccumulative (article 57e)

##### Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

##### Notation

57)      hazardous to the Aquatic Environment in category Chronic 2

##### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
biphenyl	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other		A)	

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List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
	endocrine-related functions in or via the aquatic environment			

### Legend

A) Indicative list of the main pollutants

### National regulations (Germany)

#### Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK 2 obviously hazardous to water  
(water hazard class)

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2017/164/EU	Commission Directive establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
AGW	Workplace exposure limit
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DFG	Deutsche Forschungsgemeinschaft MAK- und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)

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Abbr.	Descriptions of used abbreviations
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TWA	Time-weighted average



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Abbr.	Descriptions of used abbreviations
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. FRAGOL cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.