

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOLTHERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

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

#### 1.1 Product identifier

Trade name	<b>FRAGOLTHERM FG-35</b>
Identification of the substance	White mineral oil (petroleum)
Registration number (REACH)	01-2119487078-27-xxxx
EC number	232-455-8
CAS number	8042-47-5

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

Relevant identified uses	Heat transfer fluid Industrial use Professional 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

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

#### 2.2 Label elements

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

Not required.

#### 2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB ( $\geq 0,1\%$ ).

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Name of substance	White mineral oil (petroleum)
Identifiers	
REACH Reg. No	01-2119487078-27-xxxx
CAS No	8042-47-5
EC No	232-455-8
Purity	100 %

### 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. In all cases of doubt, or when symptoms persist, seek medical advice.

##### 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. If eye irritation persists: Get medical advice/attention.

##### Following ingestion

Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

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

Symptoms and effects are not known to date.

#### 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

Water spray, Dry extinguishing powder, Carbon dioxide (CO<sub>2</sub>),  
Co-ordinate firefighting measures to the fire surroundings.

##### 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>).

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### 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.

### 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). Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

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.

## 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.

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

- 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.

### 7.3 Specific end use(s)

There is no additional information.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Notation	Source
DE	White mineral oil (petroleum)	8042-47-5	MAK		5		20	r	DFG
DE	White mineral oil (petroleum)	8042-47-5	AGW		5		20	r, Y	TRGS 900

#### Notation

r respirable 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)  
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 and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	160 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	220 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	35 mg/m <sup>3</sup>	human, inhalatory	consumer (private households)	chronic - systemic effects
DNEL	93 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
DNEL	40 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

### 8.2 Exposure controls

#### Appropriate engineering controls

General ventilation. Provide eyewash stations and safety showers at the workplace.

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection (EN 166).

#### Skin protection



Protective clothing (EN 340 & EN ISO 13688).

#### - hand protection



Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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. ATTENTION: Wearing moisture-proof gloves (occlusion) for longer than 4 hours is defined as a risk in Germany.

#### - breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

#### - other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Full face mask/half mask/quarter mask (EN 136/140). 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	colourless
Odour	odourless
Melting point/freezing point	-15 °C at 101,3 kPa
Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	LEL: UEL: not determined
Flash point	220 °C Bestimmung des Flammpunktes - Verfahren nach Pensky-Martens mit geschlossenem Tiegel (DIN EN ISO 2719) 245 °C Bestimmung des Flammpunktes - Verfahren nach Cleveland mit offener Tiegel (DIN EN ISO 2592)
Auto-ignition temperature	not determined
Decomposition temperature	no data available

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

pH (value)	not determined
Kinematic viscosity	35 cSt at 40 °C

### Solubility

Water solubility	insoluble
------------------	-----------

Partition coefficient n-octanol/water (log value)	>1
---	----

Vapour pressure	not determined
-----------------	----------------

### Density and/or relative density

Density	0,835 – 0,875 g/ml at 15 °C (ASTM D 4052)
Relative vapour density	information on this property is not available

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

Oxidisers.

### 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.

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### SECTION 11: Toxicological information

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

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

This substance does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

##### Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity			
Exposure route	Endpoint	Value	Species
oral	LD50	>5.000 mg/kg	rat
dermal	LD50	>2.000 mg/kg	rabbit

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### 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.

##### Other information

May cause respiratory tract irritation when present in a form of oil mist or vapors at high temperatures.

#### 11.2 Information on other hazards

##### Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0.1\%$ .

##### Other information

There is no additional information.

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### SECTION 12: Ecological information

#### 12.1 Toxicity

Acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)			
Endpoint	Value	Species	Exposure time
LL50	>10.000 mg/l	fish	96 h
LL50	>100 mg/l	fish	96 h
LL50	>100 mg/l	aquatic invertebrates	48 h

#### 12.2 Persistence and degradability

Biodegradation

Not readily biodegradable.

Process of degradability		
Process	Degradation rate	Time
biotic/abiotic	50 %	28 d

#### 12.3 Bioaccumulative potential

Potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

n-octanol/water (log KOW)	>1
---------------------------	----

#### 12.4 Mobility in soil

Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

#### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0.1\%$ .

#### 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

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

**Relevant provisions relating to waste**

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### Decision 2000/532/EC on the list of waste

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 | <b>UN number or ID number</b>                                  | not subject to transport regulations                                  |
| 14.2 | <b>UN proper shipping name</b>                                 | not relevant  |
| 14.3 | <b>Transport hazard class(es)</b>                              | none  |
| 14.4 | <b>Packing group</b>   | not assigned  |
| 14.5 | <b>Environmental hazards</b>                                   | non-environmentally hazardous acc. to the dangerous goods regulations |
| 14.6 | <b>Special precautions for user</b>                            | There is no additional information.                                   |
| 14.7 | <b>Maritime transport in bulk according to IMO instruments</b> | No data available.  |

### Information for each of the UN Model Regulations

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

Not subject to ADR, RID and ADN.

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

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Not subject to ICAO-IATA.

## 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

Not listed.

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

Not listed.

#### 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
	not assigned		

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

### Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Not listed.

### Water Framework Directive (WFD)

Not listed.

### Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

Not listed.

### Regulation on persistent organic pollutants (POP)

Not listed.

### National regulations (Germany)

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

Wassergefährdungsklasse, WGK 1 slightly hazardous to water  
(water hazard class)

Index number 434

### Technical instructions on air quality control (Germany)

Number	Group of substances	Class	Conc.	Mass flow	Mass concentration	Notation
5.2.5	organic substances		≥ 25 wt%	0,5 kg/h	50 mg/m <sup>3</sup>	3)

#### Notation

3) a total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m<sup>3</sup>, each of which to be indicated as total carbon, shall not be exceeded (except organic particulate matter)

### Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK) 10-13 (other combustible and non-combustible substances)

## 15.2 Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
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 relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
AGW	Workplace exposure limit
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
DFG	Deutsche Forschungsgemeinschaft MAK- und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim
DGR	Dangerous Goods Regulations (see IATA/DGR)

# Safety Data Sheet

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

amended by 2020/878/EU

# FRAGOL

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

Abbr.	Descriptions of used abbreviations
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
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)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
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
IMDG	International Maritime Dangerous Goods Code
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)
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
NLP	No-Longer Polymer
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)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TWA	Time-weighted average
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).

# Safety Data Sheet

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

amended by 2020/878/EU

The logo for FRAGOL, consisting of the word "FRAGOL" in a bold, yellow, sans-serif font.

## FRAGOL THERM FG-35

Version number: 9.0  
Replaces version of: 2022-05-17 (8)

Revision: 2023-05-30

---

### 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.