

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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

1.1 Product identifier

Trade name **FRAGOL COMP W 46 FG**
Registration number (REACH) not relevant (mixture)

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

Relevant identified uses 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 02-40
Telefax: +49 (0)208-300 02-77
e-mail: lubes@fragol.de
Website: www.fragol.de

e-mail (competent person) lubes@fragol.de

1.4 Emergency telephone number

Emergency information service +49 (0) 208-300 02-40
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 30 30 686 700 (24/7)

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
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of H-phrases: see SECTION 16

Code	Supplemental hazard information
EUH208	contains N-1-naphthylaniline. May produce an allergic reaction

The most important adverse physicochemical, human health and environmental effects
Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- signal word Not required.

Safety Data Sheet

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

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FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

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- pictograms Not required.
- hazard statements
H412 Harmful to aquatic life with long lasting effects.
- precautionary statements
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- supplemental hazard information
EUH208 Contains N-1-naphthylaniline. May produce an allergic reaction.

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

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




SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

The product does not contain (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
2,6-di-tert-butyl-p-cresol	CAS No 128-37-0 EC No 204-881-4 REACH Reg. No 01-2119555270- 46-xxxx	< 1	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		
N-1-naphthylaniline	CAS No 90-30-2 EC No 201-983-0 REACH Reg. No 01-2119488704- 27-xxxx	< 1	Acute Tox. 4 / H302 Skin Sens. 1B / H317 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	CAS No 68411-46-1 EC No 270-128-1 REACH Reg. No 01-2119491299- 23-xxxx	< 1	Repr. 2 / H361f Aquatic Chronic 3 / H412		

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
N-1-naphthylaniline	CAS No 90-30-2 EC No 201-983-0	-	-	1.625 mg/kg	oral

Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

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. If skin irritation or rash occurs: Get medical advice/attention.

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 with water (only if the person is conscious). Get medical advice/attention. Call a POISON CENTER or doctor if you feel unwell.

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. For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, Dry extinguishing powder, Carbon dioxide (CO₂),
Co-ordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced, Carbon monoxide (CO), Carbon dioxide (CO₂)

Safety Data Sheet

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amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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. Use personal protective equipment as required.

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

Absorb with liquid-binding material (sand, diatomite, diatomaceous earth, acid binder, universal binder, sawdust).

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. Use only in well-ventilated areas.

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

Safety Data Sheet

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amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

- 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

Keep only in original container.

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 ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
DE	2,6-di-tert-butyl-p-cresol	128-37-0	AGW		10		40	i, va, Y	TRGS 900
DE	White mineral oil (petroleum) (Viscosity >20,5mm ² /s @40C)	8042-47-5	MAK		5		20	r	DFG
DE	White mineral oil (petroleum) (Viscosity >20,5mm ² /s @40C)	8042-47-5	AGW		5		20	r, Y	TRGS 900
DE	N-1-naphthylaniline	90-30-2	AGW		2		4	i, Y, Sh	TRGS 900
DE	N-1-naphthylaniline	90-30-2	MAK		2		4	i	DFG

Notation

i	inhalable fraction
r	respirable fraction
Sh	skin-sensitising substances
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)
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

Biological limit values

Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
DE	butylated hydroxytoluene (BHT)	butylated hydroxytoluene acid	hydr	BAT (BAR)	7 µg/l	DFG

Notation

hydr	hydrolysis
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Safety Data Sheet

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amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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
N-1-naphthylaniline	90-30-2	DNEL	0,08 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	44 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	0,02 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	6,67 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	0,015 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	33 mg/m ³	human, inhalatory	consumer (private households)	acute - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	0,008 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	3,33 mg/kg bw/day	human, dermal	consumer (private households)	acute - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	0,008 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
N-1-naphthylaniline	90-30-2	DNEL	2 mg/kg bw/day	human, oral	consumer (private households)	acute - systemic effects
2,6-di-tert-butyl-p-cresol	128-37-0	DNEL	3,5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
2,6-di-tert-butyl-p-cresol	128-37-0	DNEL	0,5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2,6-di-tert-butyl-p-cresol	128-37-0	DNEL	0,86 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
2,6-di-tert-butyl-p-cresol	128-37-0	DNEL	0,25 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	DNEL	0,6 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	DNEL	0,08 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	DNEL	0,14 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	DNEL	0,04 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects

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amended by 2020/878/EU

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	DNEL	0,04 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
N-1-naphthylaniline	90-30-2	PNEC	0,003 mg/l	aquatic organisms	water	intermittent release
N-1-naphthylaniline	90-30-2	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
N-1-naphthylaniline	90-30-2	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
N-1-naphthylaniline	90-30-2	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
N-1-naphthylaniline	90-30-2	PNEC	0,034 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
N-1-naphthylaniline	90-30-2	PNEC	0,003 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
N-1-naphthylaniline	90-30-2	PNEC	0,007 mg/kg	terrestrial organisms	soil	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	1,99 µg/l	aquatic organisms	water	intermittent release
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	0,199 µg/l	aquatic organisms	freshwater	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	0,02 µg/l	aquatic organisms	marine water	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	0,17 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	99,6 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	9,96 µg/kg	aquatic organisms	marine sediment	short-term (single instance)
2,6-di-tert-butyl-p-cresol	128-37-0	PNEC	47,69 µg/kg	terrestrial organisms	soil	short-term (single instance)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	0,51 mg/l	aquatic organisms	water	intermittent release
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	0,034 mg/l	aquatic organisms	freshwater	short-term (single instance)

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FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	0,003 mg/l	aquatic organisms	marine water	short-term (single instance)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	0,446 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	0,045 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	PNEC	1,76 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

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

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. Check leak-tightness/impermeability prior to use. 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.

- 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.

Safety Data Sheet

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amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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
Melting point/freezing point	not determined
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	224 °C (ASTM D92)
Auto-ignition temperature	not determined
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	45,2 mm ² /s at 40 °C (ASTM D 445)

Solubility

Water solubility	insoluble
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Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	not determined
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Density and/or relative density

Density	0,875 g/cm ³ (ASTM D 1298)
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
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Safety Data Sheet

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FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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.

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.

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
N-1-naphthylaniline	90-30-2	oral	1.625 mg/kg

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
N-1-naphthylaniline	90-30-2	oral	LD50	1.625 mg/kg	rat
N-1-naphthylaniline	90-30-2	dermal	LD50	>5.000 mg/kg	rabbit
2,6-di-tert-butyl-p-cresol	128-37-0	oral	LD50	>6.000 mg/kg	rat

Safety Data Sheet

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FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
2,6-di-tert-butyl-p-cresol	128-37-0	dermal	LD50	>2.000 mg/kg	rat
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	oral	LD50	>5.000 mg/kg	rat
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	dermal	LD50	>2.000 mg/kg	rat

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

Contains N-1-naphthylaniline. May produce an allergic reaction.

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

Endocrine disrupting properties

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

Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Acc. to 1272/2008/EC: Harmful 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
N-1-naphthylaniline	90-30-2	LC50	0,44 mg/l	fish	96 h
N-1-naphthylaniline	90-30-2	EC50	0,3 mg/l	aquatic invertebrates	48 h

Safety Data Sheet

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FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
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Revision: 2023-07-17

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
N-1-naphthylaniline	90-30-2	ErC50	0,93 mg/l	algae	96 h
2,6-di-tert-butyl-p-cresol	128-37-0	LC50	>0,57 mg/l	fish	96 h
2,6-di-tert-butyl-p-cresol	128-37-0	EC50	0,48 mg/l	aquatic invertebrates	48 h
2,6-di-tert-butyl-p-cresol	128-37-0	ErC50	>0,4 mg/l	algae	72 h
2,6-di-tert-butyl-p-cresol	128-37-0	NOEC	0,15 mg/l	aquatic invertebrates	48 h
2,6-di-tert-butyl-p-cresol	128-37-0	growth rate (Er-Cx) 10%	0,4 mg/l	algae	72 h
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	LC50	>100 mg/l	fish	96 h
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	EC50	51 mg/l	aquatic invertebrates	48 h
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	ErC50	>100 mg/l	algae	72 h
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	NOEC	10 mg/l	aquatic invertebrates	48 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
N-1-naphthylaniline	90-30-2	EC50	>10.000 mg/l	microorganisms	3 h
2,6-di-tert-butyl-p-cresol	128-37-0	EC50	0,096 mg/l	aquatic invertebrates	21 d
2,6-di-tert-butyl-p-cresol	128-37-0	NOEC	0,053 mg/l	fish	30 d
2,6-di-tert-butyl-p-cresol	128-37-0	LOEC	0,14 mg/l	fish	30 d
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	EC50	>100 mg/l	aquatic invertebrates	24 h

12.2 Persistence and degradability

Degradability of components of the mixture					
Name of substance	CAS No	Process	Degradation rate	Time	Method
N-1-naphthylaniline	90-30-2	oxygen depletion	0 %	28 d	
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	carbon dioxide generation	0 %	28 d	

12.3 Bioaccumulative potential

Data are not available.

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
N-1-naphthylaniline	90-30-2	600	4,28	
2,6-di-tert-butyl-p-cresol	128-37-0		5,1	
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	68411-46-1	411	6,66 (pH value: 6,67, 23 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB $\geq 0.1\%$.

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

Decision 2000/532/EC on the list of waste

Waste catalogue ordinance (Germany)

- product

13 02 05* mineral-based non-chlorinated engine, gear and lubricating oils

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	not subject to transport regulations
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	none
14.4 Packing group	not assigned
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	There is no additional information.

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

14.7 Maritime transport in bulk according to IMO instruments

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

Name	Name acc. to inventory	Restriction	No
FRAGOL COMP W 46 FG	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	substances in tattoo inks and permanent make-up	R75	75
N-1-naphthylaniline	substances in tattoo inks and permanent make-up	R75	75

Legend

R3

- Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ash-trays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
- Articles not complying with paragraph 1 shall not be placed on the market.
- Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
- Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
- Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
 - lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Legend

R75

1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:

(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;

(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:

(i) 0,1 % by weight, if the substance is used solely as a pH regulator;

(ii) 0,01 % by weight, in all other cases;

(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:

(i) "Rinse-off products";

(ii) "Not to be used in products applied on mucous membranes";

(iii) "Not to be used in eye products";

(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;

(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.

2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.

3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.

4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:

(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);

(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).

5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.

7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

(a) the statement "Mixture for use in tattoos or permanent make-up";

(b) a reference number to uniquely identify the batch;

(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. "Ingredient" means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;

(d) the additional statement "pH regulator" for substances falling under point (d)(i) of paragraph 1;

(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;

(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;

(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.

The information shall be clearly visible, easily legible and marked in a way that is indelible.

The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.

Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.

8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.

9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).

10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning.

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Legend

Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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

None of the ingredients are 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		

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

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	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 endocrine-related functions in or via the aquatic environment		a)	
2,6-di-tert-butyl-p-cresol	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 endocrine-related functions in or via the aquatic environment		a)	

Legend

A) Indicative list of the main pollutants

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

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Germany)

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

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

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

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 ³	3)

Notation

3) a total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m³, 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 (combustible liquids)

15.2 Chemical safety assessment

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

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
2.3	Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of ≥ 0,1%.
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.
3.2		Mixtures: change in the listing (table)
8.1		Biological limit values
8.1		Biological limit values: change in the listing (table)
8.1		Relevant DNELs of components of the mixture: change in the listing (table)
8.1		Relevant PNECs of components of the mixture: change in the listing (table)
8.2	Appropriate engineering controls: General ventilation.	Appropriate engineering controls: General ventilation. Provide eyewash stations and safety showers at the workplace.
11.1		Acute toxicity of components of the mixture: change in the listing (table)
11.2	Information on other hazards: There is no additional information.	Information on other hazards
11.2		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.
11.2		Other information: There is no additional information.
12.1		Aquatic toxicity (acute) of components of the mixture: change in the listing (table)
12.1		Aquatic toxicity (chronic) of components of the mixture: change in the listing (table)

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Section	Former entry (text/value)	Actual entry (text/value)
12.3		Bioaccumulative potential of components of the mixture: change in the listing (table)
12.5	Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	Results of PBT and vPvB assessment: Does not contain any substances that are assessed to be PBT or vPvB \geq 0.1%.
12.6	Endocrine disrupting properties: None of the ingredients are listed.	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of \geq 0.1%.
15.1		Restrictions according to REACH, Annex XVII: change in the listing (table)
15.1		List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list: None of the ingredients are listed.
15.1		Seveso Directive
15.1		2012/18/EU (Seveso III): change in the listing (table)
15.1		Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR): None of the ingredients are listed.
15.1		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: None of the ingredients are listed.
15.1		Technical instructions on air quality control (Germany)
15.1		Technical instructions on air quality control (Germany): change in the listing (table)
16		Abbreviations and acronyms: change in the listing (table)
16		List of relevant phrases (code and full text as stated in section 2 and 3): change in the listing (table)

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
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
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Abbr.	Descriptions of used abbreviations
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)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
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
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
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
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)
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
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
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)

Safety Data Sheet

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

amended by 2020/878/EU

FRAGOL

FRAGOL COMP W 46 FG

Version number: 11.0
Replaces version of: 2022-07-05 (10)

Revision: 2023-07-17

Abbr.	Descriptions of used abbreviations
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
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).

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 section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very 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.