

safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



Roti®-Histofix 4 % acid free (pH 7), phosphate-buffered formaldehyde solution 4 %

article number: **P087**
Version: **1.0 en**

date of compilation: 2016-06-13

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

1.1 Product identifier

Identification of the substance **Roti®-Histofix 4 %**
Article number **P087**
Registration number (REACH) **not relevant (mixture)**

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

Identified uses: laboratory chemical

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet : Department Health, Safety and Environment

e-mail (competent person) : sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service **Poison Centre Munich: +49/(0)89 19240**

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	(Acute Tox. 4)	H302
3.4S	skin sensitisation	(Skin Sens. 1)	H317
3.5	germ cell mutagenicity	(Muta. 2)	H341
3.6	carcinogenicity	(Carc. 1B)	H350

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Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

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

Signal word

Danger

Pictograms



Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

Precautionary statements

Precautionary statements - prevention

P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/eye protection.

Precautionary statements - response

P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P308+P313	IF exposed or concerned: Get medical advice/attention.

For professional users only

Hazardous ingredients for labelling: Formaldehyde, methanol

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/eye protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P308+P313	IF exposed or concerned: Get medical advice/attention.
contains:	Formaldehyde, Methanol

2.3 Other hazards

There is no additional information.

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Composition/information on ingredients.

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms	Specific Conc. Limits
Formaldehyde	CAS No 50-00-0 EC No 200-001-8 Index No 605-001-00-5 REACH Reg. No 01-2119488953- 20-xxxx	4	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1B / H350 STOT SE 3 / H335		Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 5 % ≤ C < 25 % Eye Dam. 1; H318: C ≥ 25 % Eye Irrit. 2; H319: 5 % ≤ C < 25 % Skin Sens. 1; H317: C ≥ 0,2 % STOT SE 3; H335: C ≥ 5 %
methanol	CAS No 67-56-1 EC No 200-659-6 Index No 603-001-00-X REACH Reg. No 01-2119433307- 44-xxxx	< 3	Flam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370		STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In case of skin reactions, consult a physician.

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Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Effects on special senses (such as sight, hearing and sense of smell), Vomiting, Allergic reactions

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, alcohol resistant foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

no restriction

5.2 Special hazards arising from the substance or mixture

None.

Hazardous combustion products

In case of fire may be liberated: May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

Special protective equipment for firefighters

Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles. Self-contained breathing apparatus (SCBA). Self-contained breathing apparatus (EN 133).

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

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Advices on how to clean up a spill

Collect spillage. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clear contaminated areas thoroughly.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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

No special measures are necessary.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

• Ventilation requirements

Use local and general ventilation.

• Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C.

7.3 Specific end use(s)

No information available.

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	Notation	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
EU	methanol	67-56-1		IOELV	200	260			2006/15/EC
IE	formaldehyde	50-00-0		OELV	2	2,5	2	2,5	S.I. No. 619 of 2001
IE	methanol	67-56-1		OELV	200	260			S.I. No. 619 of 2001

Notation

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

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Relevant DNELs/DMELs/PNECs and other threshold levels

• 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
Formaldehyde	50-00-0	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Formaldehyde	50-00-0	DNEL	240 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
Formaldehyde	50-00-0	DNEL	0,5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Formaldehyde	50-00-0	DNEL	0,375 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Formaldehyde	50-00-0	DNEL	0,75 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
Formaldehyde	50-00-0	DNEL	37 µg/cm ²	human, dermal	worker (industry)	chronic - local effects
methanol	67-56-1	DNEL	260 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
methanol	67-56-1	DNEL	40 mg/kg	human, dermal	worker (industry)	acute - systemic effects
methanol	67-56-1	DNEL	260 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
methanol	67-56-1	DNEL	260 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
methanol	67-56-1	DNEL	40 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	260 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects

• relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Formaldehyde	50-00-0	PNEC	0,44 mg/l	freshwater	short-term (single instance)
Formaldehyde	50-00-0	PNEC	0,44 mg/l	marine water	short-term (single instance)
Formaldehyde	50-00-0	PNEC	4,44 mg/l	water	continuous
Formaldehyde	50-00-0	PNEC	0,19 mg/l	sewage treatment plant (STP)	short-term (single instance)
Formaldehyde	50-00-0	PNEC	2,3 mg/kg	freshwater sediment	short-term (single instance)
Formaldehyde	50-00-0	PNEC	2,3 mg/kg	marine sediment	short-term (single instance)
Formaldehyde	50-00-0	PNEC	0,2 mg/kg	soil	short-term (single instance)
methanol	67-56-1	PNEC	20,8 mg/l	freshwater	short-term (single instance)

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Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
methanol	67-56-1	PNEC	2,08 mg/l	marine water	short-term (single instance)
methanol	67-56-1	PNEC	100 mg/l	sewage treatment plant (STP)	short-term (single instance)
methanol	67-56-1	PNEC	77 mg/kg	freshwater sediment	short-term (single instance)
methanol	67-56-1	PNEC	7,7 mg/kg	marine sediment	short-term (single instance)
methanol	67-56-1	PNEC	3,18 mg/kg	soil	short-term (single instance)
methanol	67-56-1	PNEC	1.540 mg/l	water	continuous

8.2 Exposure controls

Individual protection measures (personal protective equipment)



Eye/face protection

Use safety goggle with side protection.

Skin protection

• 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.

• type of material

NBR (Nitrile rubber)

• material thickness

0,7mm.

• breakthrough times 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.

Respiratory protection

Respiratory protection necessary at: Aerosol or mist formation. Type: ABEK (combined filters against gases and vapours, colour code: Brown/Grey/Yellow/Green).

Environmental exposure controls

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	characteristic
Odour threshold	No data available

Other physical and chemical parameters

pH (value)	7
Melting point/freezing point	0 °C
Initial boiling point and boiling range	100 °C
Flash point	not determined
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	not relevant
Vapour pressure	This information is not available.
Density	1,01 g/cm ³ at 20 °C
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	miscible in any proportion
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	none
Oxidising properties	none

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9.2 Other information

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

Violent reaction with: Strong oxidiser

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

• Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Formaldehyde	50-00-0	oral	100 mg/kg
Formaldehyde	50-00-0	dermal	270 mg/kg
Formaldehyde	50-00-0	inhalation: vapour	3 mg/l/4h
methanol	67-56-1	oral	100 mg/kg
methanol	67-56-1	dermal	300 mg/kg
methanol	67-56-1	inhalation: vapour	3 mg/l/4h

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

May cause an allergic skin reaction. May cause sensitisation by skin contact.

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Summary of evaluation of the CMR properties

Germ cell mutagenicity:

Suspected of causing genetic defects

Carcinogenicity:

May cause cancer

• 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.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

data are not available

• If in eyes

data are not available

• If inhaled

data are not available

• If on skin

data are not available

Other information

None

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)

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Formaldehyde	50-00-0	LC50	41 mg/l	striped brill (Brachydanio rerio)	96 h
Formaldehyde	50-00-0	EC50	5,8 mg/l	aquatic invertebrates	48 h
Formaldehyde	50-00-0	ErC50	4,89 mg/l	algae	72 h
methanol	67-56-1	LC50	15.400 mg/l	fish	96 h
methanol	67-56-1	EC50	12.700 mg/l	fish	96 h
methanol	67-56-1	ErC50	22.000 mg/l	algae	96 h

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Aquatic toxicity (chronic)

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Formaldehyde	50-00-0	LC50	31,8 mg/l	fish	24 h
Formaldehyde	50-00-0	EC50	19 mg/l	microorganisms	3 h

12.2 Process of degradability

The substance is readily biodegradable.

Process	Degradation rate	Time
biotic/abiotic	97 %	5 d

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time
Formaldehyde	50-00-0	DOC removal	99 %	28 d
methanol	67-56-1	biotic/abiotic	99 %	30 d
methanol	67-56-1	oxygen depletion	76 %	5 d

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Formaldehyde	50-00-0		0,35	
methanol	67-56-1		-0,77	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Other adverse effects

Hazardous to water.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

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

SECTION 14: Transport information

- | | | |
|------|---|--|
| 14.1 | UN number | (not subject to transport regulations) |
| 14.2 | UN proper shipping name | not relevant |
| 14.3 | Transport hazard class(es) | not relevant |
| | Class | - |
| 14.4 | Packing group | not relevant |
| 14.5 | Environmental hazards | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | Special precautions for user | |
| | There is no additional information. | |
| 14.7 | Transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | The cargo is not intended to be carried in bulk. | |
| 14.8 | Information for each of the UN Model Regulations | |
| | • Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)
Not subject to ADR, RID and ADN. | |
| | • International Maritime Dangerous Goods Code (IMDG)
Not subject to IMDG. | |

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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)

- **Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)**

None of the ingredients are listed.

- **Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)**

None of the ingredients are listed.

- **Regulation 850/2004/EC on persistent organic pollutants (POP)**

None of the ingredients are listed.

- **Restrictions according to REACH, Annex XVII**

None of the ingredients are listed.

- **List of substances subject to authorisation (REACH, Annex XIV)**

None of the ingredients are listed.

- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

VOC content 5 - 10 %

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 5 - 10 %

- **Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II**

None of the ingredients are listed.

- **Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

None of the ingredients are listed.

- **Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)**

None of the ingredients are listed.

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
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 européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	BioConcentration Factor

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Abbr.	Descriptions of used abbreviations
BOD	Biochemical Oxygen Demand
Carc.	carcinogenicity
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
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
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
Eye Dam.	seriously damaging to the eye
Eye Irrit.	irritant to the eye
Flam. Liq.	flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
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
IOELV	indicative occupational exposure limit value
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Muta.	germ cell mutagenicity
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)
S.I. No. 619 of 2001	Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001
Skin Corr.	corrosive to skin
Skin Irrit.	irritant to skin
Skin Sens.	skin sensitisation
STEL	short-term exposure limit
STOT SE	specific target organ toxicity - single exposure
TWA	time-weighted average
VOC	Volatile Organic Compounds

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Abbr.	Descriptions of used abbreviations
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

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

Code	Text
H225	highly flammable liquid and vapour
H301	toxic if swallowed
H302	harmful if swallowed
H311	toxic in contact with skin
H314	causes severe skin burns and eye damage
H317	may cause an allergic skin reaction
H318	causes serious eye damage
H331	toxic if inhaled
H335	may cause respiratory irritation
H341	suspected of causing genetic defects
H350	may cause cancer
H370	causes damage to organs

Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.