

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Ethylene Glycol 50%

Version number: 1.0

Date of compilation: 2023-09-12

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **Ethylene Glycol 50%**  
Product code(s) 013-03867-650SS

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

Relevant identified uses laboratory and analytical use

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

AquaPhoenix Scientific, Inc  
860 Gitts Run Road  
Hanover PA 17331  
United States

Telephone: (717) 632-1291  
e-mail: info@aquaphoenixsci.com

#### 1.4 Emergency telephone number

Emergency information service ChemTel Inc. (800) 255-3924 (North America)  
+1 (813) 248-0585 (International)

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	acute toxicity (oral)	4	Acute Tox. 4	H302
A.7	reproductive toxicity	2	Repr. 2	H361d
A.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

#### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word warning

- Pictograms

GHS07, GHS08



- Hazard statements

H302 Harmful if swallowed.  
H361d Suspected of damaging the unborn child (if exposed).  
H373 May cause damage to organs (kidney, liver) through prolonged or repeated exposure.

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### - Precautionary statements

P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	If swallowed: Call a poison center/doctor if you feel unwell.
P308+P313	If exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling ethylene glycol

### 2.3 Other hazards

#### 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

#### Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Deionized water	CAS No 7732-18-5	51 – 53	not classified	none
Ethylene glycol	CAS No 107-21-1	47.7 – 49	Acute Tox. 4 / H302 Repr. 2 / H361d STOT RE 2 / H373	
Dipotassium hydrogen phosphate	CAS No 7758-11-4	0.5 – 1.5	Acute Tox. 3 / H331	
Sodium tolytriazole	CAS No 64665-57-2	0.05 – 0.125	Acute Tox. 4 / H302	

For full text of abbreviations: see SECTION 16.

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### 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. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

##### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

##### Following skin contact

Wash with plenty of soap and water.

##### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

##### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

#### 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

none

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

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

##### Unsuitable extinguishing media

Water jet

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

##### Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate 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.

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### SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

#### 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). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

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

Control of the effects

Protect against external exposure, such as

frost

#### 7.3 Specific end use(s)

See section 16 for a general overview.

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	ethylene glycol	107-21-1	REL							appx-D	NIOSH REL
US	ethylene glycol	107-21-1	TLV®				10			i, aerosol	ACGIH® 2023
US	ethylene glycol	107-21-1	PEL (CA)					40	100	vap	Cal/ OSHA PEL
US	ethylene glycol	107-21-1	TLV®	25		50				vap	ACGIH® 2023

#### Notation

aerosol	as aerosols
appx-D	see Appendix D - Substances with No Established RELs
Ceiling-C	ceiling value is a limit value above which exposure should not occur
i	inhalable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)
vap	as vapors

#### Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
ethylene glycol	107-21-1	DNEL	35 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
ethylene glycol	107-21-1	DNEL	106 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
dipotassium hydrogen phosphate	7758-11-4	DNEL	19.1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

#### Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
ethylene glycol	107-21-1	PNEC	10 mg/l	aquatic organisms	freshwater	short-term (single instance)
ethylene glycol	107-21-1	PNEC	1 mg/l	aquatic organisms	marine water	short-term (single instance)
ethylene glycol	107-21-1	PNEC	199.5 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
ethylene glycol	107-21-1	PNEC	37 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
ethylene glycol	107-21-1	PNEC	3.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
ethylene glycol	107-21-1	PNEC	1.53 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. 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.

- 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.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid
Color	pink
Particle	not relevant (liquid)
Odor	characteristic

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### Other safety parameters

pH (value)	8 – 10
Melting point/freezing point	>-13 °C at 1,013.3 hPa
Initial boiling point and boiling range	>107 °C
Flash point	118 °C (c.c.)
Evaporation rate	<0.5 (n-butyl acetate = 1)
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	< 23.7 mmHg at 25 °C
Density	1.08 g/cm <sup>3</sup> at 20 °C
Vapor density	this information is not available
Relative density	1.2 at 20 °C (air = 1)

### Solubility(ies)

- Water solubility	miscible in any proportion
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### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
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Auto-ignition temperature	> 398 °C
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### Viscosity

- Kinematic viscosity	7 cSt at 20 °C
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- Dynamic viscosity	7.56 cP at 20 °C
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Explosive properties	none
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Oxidizing properties	none
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### 9.2 Other information

Liquid content	100 %
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Solid content	1.5 %
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Temperature class (USA, acc. to NEC 500)	T2 (maximum permissible surface temperature on the equipment: 300°C)
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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

#### 10.2 Chemical stability

See below "Conditions to avoid".

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

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

#### 10.5 Incompatible materials

Oxidizers

#### 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 toxicological effects

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 acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

##### Acute toxicity

Harmful if swallowed.

##### - Acute toxicity estimate (ATE)

Oral 310 mg/kg

##### Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
dipotassium hydrogen phosphate	7758-11-4	inhalation: dust/mist	>0.83 mg/l/4h
sodium tolytriazole	64665-57-2	oral	735 mg/kg

##### 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 sensitization

Shall not be classified as a respiratory or skin sensitizer.



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### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

### Carcinogenicity

Shall not be classified as carcinogenic.

### Reproductive toxicity

Suspected of damaging the unborn child (if exposed).

### Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

May cause damage to organs (kidney, liver) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
2	kidney	if exposed
2	liver	if exposed

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0.1\%$ .

### 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.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### 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</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>Transport in bulk according to IMO instruments</b> |   |
|      |   | The cargo is not intended to be carried in bulk.                      |

#### Information for each of the UN Model Regulations

##### **Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information**

Not subject to transport regulations.

##### **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 specific for the product in question

##### **National regulations (United States)**

##### **Toxic Substance Control Act (TSCA)**

all ingredients are listed (ACTIVE) or exempt from listing

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### Superfund Amendment and Reauthorization Act (SARA TITLE III )

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

Name of substance	CAS No	Remarks	Effective date
ethylene glycol	107-21-1		1986-12-31

### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
ethylene glycol	107-21-1		3	5000 (2270)

#### Legend

3 "3" indicates that the source is section 112 of the Clean Air Act

### Clean Air Act

none of the ingredients are listed

### Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
ethylene glycol	107-21-1		

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals

Name acc. to inventory	CAS No	Remarks	Type of the toxicity
ethylene glycol (ethanediol)	107-21-1		developmental

### Industry or sector specific available guidance(s)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

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Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	2	temporary or minor injury may occur
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	2	material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
VN	NCI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

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### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

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

## SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH® 2023	From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a>
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
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
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition

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Abbr.	Descriptions of used abbreviations
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Repr.	Reproductive toxicity
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). 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.
H331	Toxic if inhaled.
H361d	Suspected of damaging the unborn child (if exposed).
H373	May cause damage to organs (kidney, liver) through prolonged or repeated exposure.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.