

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

### 1.1 Product identifier

#### Trade name/designation

WEBAC 4420 Comp. A  
faserarmierte EP Schutzbeschichtung

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

Restricted to professional users.

#### Relevant identified uses

epoxy resin component

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

#### supplier

WEBAC-Chemie GmbH  
Fahrenberg 22 Telephone: +49 40 670570  
22885 Barsbüttel Telefax: +49 40 6703227  
Germany

#### Department responsible for information

E-mail (competent person) msds@webac.de

### 1.4 Emergency telephone number

#### Giftinformationszentrum-Nord

Emergency telephone number: +49 551 192 40  
available 24h/365days; Information will be provided in German and English

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].  
Eye Irrit. 2; Serious eye damage/eye irritation; H319 Causes serious eye irritation.  
Skin Irrit. 2; Skin corrosion/irritation; H315 Causes skin irritation.  
Skin Sens. 1; Skin sensitisation; H317 May cause an allergic skin reaction.  
Aquatic Chronic 2; Hazardous to the aquatic environment; H411 Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

#### Hazard pictograms



GHS07 GHS09

#### Signal word

Warning

#### Hazard statements

H319 Causes serious eye irritation.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.  
P280 Wear protective gloves and eye protection/face protection.  
P391 Collect spillage.

#### Hazard components for labelling

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane  
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane

**Supplemental hazard information**

EUH205 Contains epoxy constituents. May produce an allergic reaction.

**2.3 Other hazards**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**SECTION 3: Composition/information on ingredients.**

**3.2 Mixtures**

**Description**

epoxy resin component

**Hazardous ingredients**

CAS No. EC No. Index No.	Substance name REACH No. Classification according to Regulation (EC) No 1272/2008 [CLP]	weight-%
* 1675-54-3 216-823-5 603-073-00-2	<b>2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane</b> 01-2119456619-26-xxxx Skin Irrit. 2 H315 / Skin Sens. 1 H317 / Eye Irrit. 2 H319 / Aquatic Chronic 2 H411 Specific concentration limit (SCL) Eye Irrit. 2 H319: >= 5,00 / Skin Irrit. 2 H315: >= 5,00 ATE (dermal): = 23,000 mg/kg ATE (oral): = 15,000 mg/kg	25,0 <= 50,0
* - 701-263-0 -	<b>Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane</b> 01-2119454392-40-xxxx Skin Irrit. 2 H315 / Skin Sens. 1 H317 / Aquatic Chronic 2 H411 ATE (oral): > 5,000 mg/kg ATE (dermal): > 2,000 mg/kg	10,0 <= 25,0

**Remark**

Full text of H- and EUH-statements: see section 16.

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General information**

In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice.

**Following inhalation**

Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration.

**Following skin contact**

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.

**After eye contact**

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

**Following ingestion**

If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

**Self-protection of the first aider**

First aider: Pay attention to self-protection!

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

**Symptoms**

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

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

First Aid, decontamination, treatment of symptoms.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

alcohol resistant foam, Carbon dioxide (CO<sub>2</sub>), Powder, spray mist, (water)

#### Unsuitable extinguishing media

Strong water jet

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

Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.

### 5.3 Advice for firefighters

Provide a conveniently located respiratory protective device. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.

## SECTION 6: Accidental release measures

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

Ventilate affected area. Do not breathe vapours.

### 6.2 Environmental precautions

Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.

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

#### For containment

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

#### For cleaning up

Clean using cleansing agents. Do not use solvents.

### 6.4 Reference to other sections

Safe handling: see section 7

Personal protection equipment: refer to section 8

Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advices on safe handling

- \* Avoid contact with skin, eyes and clothes. Avoid breathing spray.  
Personal protection equipment: see section 8  
Follow the legal protection and safety regulations.

#### Advices on general occupational hygiene

When using do not eat, drink or smoke.

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

#### Requirements for storage rooms and vessels

Storage in accordance with the Ordinance on Industrial Safety and Health (BetrSiVO). Access only for authorised persons. Smoking is forbidden.

Always keep in containers that correspond to the material of the original container. Store carefully closed containers upright to prevent any leaks. Do not empty containers with pressure - no pressure vessel!

#### Hints on joint storage

Keep away from strongly acidic and alkaline materials as well as oxidizers.

Do not store together with: Food and feedingstuffs

#### Storage class

LGK10 - Combustible liquids that cannot be assigned to any of the above storage classes

#### Further information on storage conditions

- \* Store in a well-ventilated and dry room at temperatures between 5 °C and 30 °C.

### 7.3 Specific end use(s)

Observe technical data sheet.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limit values**

CAS No.	Substance name	Source	Long-term /short-term (Spitzenbegrenzung)
14807-96-6	Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	-	10 / - ( - ) mg/m <sup>3</sup> (inhalable fraction)
* 14807-96-6	Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	-	0.8 / - ( - ) mg/m <sup>3</sup> (respirable fraction)

**Additional information**

Long-term: Long-term occupational exposure limit value  
short-term: short-term occupational exposure limit value

**Biological limit values**

No data available

**DNEL worker**

CAS No.	Substance name	DNEL type	DNEL value
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	DNEL long-term dermal (systemic)	0.75 mg/kg bw/day
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	DNEL long-term inhalative (systemic)	4.93 mg/m <sup>3</sup>
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	DNEL long-term dermal (systemic)	104.15 mg/kg bw/day
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	DNEL long-term inhalative (systemic)	29.39 mg/m <sup>3</sup>

**PNEC**

CAS No.	Substance name	PNEC type	PNEC Value
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC Secondary Poisoning	11 mg/kg
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC sewage treatment plant (STP)	10 mg/L
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC aquatic, freshwater	0.006 mg/L
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC aquatic, marine water	0.001 mg/L
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC sediment, marine water	0.034 mg/kg
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC sediment, freshwater	0.341 mg/kg
* 1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	PNEC soil, freshwater	0.065 mg/kg
-	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC aquatic, marine water	0 mg/L
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC aquatic, freshwater	0.003 mg/L
* -	Reaction mass of 2,2'-[methylenebis(2,1-	PNEC aquatic, intermittent	0.025 mg/L

	phenyleneoxymethylene]]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	release	
-	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC sewage treatment plant (STP)	10 mg/L
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC sediment, marine water	0.029 mg/kg
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC sediment, freshwater	0.294 mg/kg
* -	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	PNEC soil, freshwater	0.237 mg/kg

## 8.2 Exposure controls

Provide good ventilation. This can be achieved with local or room suction.

### Personal protection equipment

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

#### Hand protection

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material  $\geq$  0.4 mm

Breakthrough time  $\geq$  480 min

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. Observe the instructions and details for use, storage, maintenance and replacement provided by the protective glove manufacturer. Penetration time of glove material depending on intensity and duration of exposure to skin.

Recommended glove articles: EN ISO 374

#### Skin protection

Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

#### Eye/face protection

Eye glasses with side protection: EN 166

Wear closely fitting protective glasses in case of splashes.

#### Body protection

Wear suitable protective clothing. Change contaminated, saturated clothing.

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	grey
Odour	characteristic
pH	not applicable
Melting point/freezing point	not determined
Initial boiling point and boiling range	not determined
Flash point	> 101 °C

flammability	not applicable
Lower explosion limit at 20°C	not determined
Upper explosion limit at 20°C	not determined
Vapour pressure at 20°C	0.8 mbar
Relative vapour density	not applicable
Density at 20 °C	1.7 kg/l
Water solubility at 20°C	practically insoluble
Partition coefficient: n-octanol/water	see section 12
Ignition temperature in °C	not determined
Decomposition temperature	not determined
Viscosity at 20 °C:	mPas
particle characteristics	not applicable

## 9.2 Other information

not applicable

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No hazardous reaction when handled and stored according to provisions.

### 10.2 Chemical stability

Stable under recommended storage and handling conditions.  
Please note the expiry date.

### 10.3 Possibility of hazardous reactions

Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions.

### 10.4 Conditions to avoid

Protect from moisture. Avoid high temperatures or direct sunlight.

### 10.5 Incompatible materials

No further relevant information available.

### 10.6 Hazardous decomposition products

Hazardous decomposition byproducts may form with exposure to high temperatures e.g.: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide, smoke.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Based on available data, the classification criteria are not met.

\* **2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane**

LD50: dermal (Rabbit): = 23,000 mg/kg

\* LD50: oral (Rat): = 15,000 mg/kg

\* **Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane**

LD50: oral (Rat): > 5,000 mg/kg

\* LD50: dermal (Rat): > 2,000 mg/kg

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

May cause an allergic skin reaction.

#### Overall assessment on CMR properties

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

\* **STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Toxic to aquatic life with long lasting effects.

**Algae toxicity**

**2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane**

ErC50: = 11 mg/L (72 h)

**Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane**

ErC50: = 1.8 mg/L (72 h)

**Daphnia toxicity**

**2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane**

EC50 = 1.8 mg/L (48 h)

**Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane**

EC50 = 2.55 mg/L (48 h)

**Fish toxicity**

**2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane**

LC50: (Oncorhynchus mykiss (Rainbow trout)): = 2 mg/L (96 h)

**Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-((2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane**

LC50: = 2.54 mg/L (96 h)

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6 Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7 Other adverse effects**

No information available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product/Packaging disposal**

Do not empty into drains; dispose of this material and its container in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

**Waste codes/waste designations according to EWC/AVV**

080409\* - Waste adhesives and sealants containing organic solvents or other dangerous substances  
Hazardous waste according to Directive 2008/98/EC (waste framework directive).

**Other disposal recommendations**

Non-contaminated packages may be recycled. Vessels not properly emptied are special waste.

**SECTION 14: Transport information**

**14.1 UN number or ID number**

UN 3082

**14.2 UN proper shipping name**

**Land transport (ADR/RID)**

UMWELTGEFÄHRDENDER STOFF, FLÜSSIG, N.A.G. (enthält BISPHENOL-A-EPICHLORHYDRINHARZE, BISPHENOL-F-EPICHLORHYDRINHARZE)

**Sea transport (IMDG)**

\* Environmentally hazardous substance, liquid, n.o.s. (contains BISPHENOL-A-EPICHLORHYDRIN RESINS, BISPHENOL-F-EPICHLORHYDRIN RESINS)

**Air transport (ICAO-TI / IATA-DGR)**

\* Environmentally hazardous substance, liquid, n.o.s. (contains BISPHENOL-A-EPICHLORHYDRIN RESINS, BISPHENOL-F-EPICHLORHYDRIN RESINS)

**14.3 Transport hazard class(es)**

Land transport (ADR/RID)	9
Sea transport (IMDG)	9
Air transport (ICAO-TI / IATA-DGR)	9

**14.4 Packing group**

Land transport (ADR/RID)	III
Sea transport (IMDG)	III
Air transport (ICAO-TI / IATA-DGR)	III

**14.5 Environmental hazards**

Land transport (ADR/RID) ENVIRONMENTALLY HAZARDOUS

\* Sea transport (IMDG) Marine pollutant / 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

**14.6 Special precautions for user**

Transport always in closed, upright and safe containers. Make sure that persons transporting the product know what to do in case of an accident or leakage.

Advices on safe handling: see parts 6 - 8

**14.7 Maritime transport in bulk according to IMO instruments**

No transport as bulk according to IBC Code.

**14.8 Additional information**

**Land transport (ADR/RID)**

Tunnel restriction code: -  
Limited quantity (LQ): 5 ltr  
Hazard identification number (Kemler No.): 90

**Sea transport (IMDG)**

EmS-No.: F-A S-F  
Limited quantity (LQ): 5 ltr

**Air transport (ICAO-TI / IATA-DGR)**

not applicable

**SECTION 15: Regulatory information**

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

**EU legislation**

**Restrictions of occupation**



Observe employment restrictions under the Maternity Protection Directive 92/85/EEC or stricter national regulations, if applicable.  
Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC) or stricter national regulations, if applicable.

**Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]**

VOC value: 0 g/l

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]**

**Hazard categories / Named dangerous substances**

E2 Hazardous to the aquatic environment in Category Chronic 2

Quantity 1: 200t; Quantity 2: 500t

**National regulations**

Observe in addition any national regulations!

**15.2 Chemical Safety Assessment**

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

**SECTION 16: Other information**

**List of relevant hazard statements and/or precautionary statements from sections 2 to 15**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

**Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]**

Eye Irrit. 2	Calculation method.
Skin Irrit. 2	Calculation method.
Skin Sens. 1	Calculation method.
Aquatic Chronic 2	Calculation method.

**Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
OEL: Occupational Exposure Limit Value  
BLV: Biological limit values  
CAS: Chemical Abstracts Service  
CLP: Classification, Labelling and Packaging  
CMR: Carcinogenic, Mutagenic and Reprotoxic  
DIN: German Institute for Standardization / German industrial standard  
DNEL: Derived No-Effect Level  
EAKV: European Waste Catalogue Directive  
EC: Effective Concentration  
EC: European Community  
EN: European Standard  
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations  
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
ICAO-TI: International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG Code: International Maritime Code for Dangerous Goods  
ISO: International Organization for Standardization  
LC: Lethal Concentration  
LD: Lethal Dose  
:  
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships  
OECD: Organisation for Economic Cooperation and Development  
PBT: persistent, bioaccumulative, toxic  
PNEC: Predicted No Effect Concentration  
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail  
UN: United Nations  
VOC: Volatile Organic Compounds  
vPvB: very persistent and very bioaccumulative

**Indication of changes**

\* Data changed compared with the previous version.