

Safety Data Sheet
KERAPOXY comp.A

Safety Data Sheet dated: 04/02/2020 - version 2



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

1.1. Product identifier

Mixture identification:

Trade name: KERAPOXY comp.A

Trade code: 9045100

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

Recommended use: Acid-resistant epoxy grout and adhesive for ceramic tiles

Uses advised against: Data not available

1.3. Details of the supplier of the safety data sheet

Company: MAPEI U.K. Ltd - Mapei House Steel Park Road

Halesowen - West Midlands B62 8HD

www.mapei.co.uk (office hour 8:30-17:30)

Responsible: sicurezza@mapei.it

1.4. Emergency telephone number

call NHS 111 or a doctor/OHES Environmental Ltd +44(0)1684 299 886

phone: +44(0)121 508 6970 - fax: +44(0)121 5086 960

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Regulation (EC) n. 1272/2008 (CLP)

Pictograms and Signal Words



Warning

Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements:

P261	Avoid breathing mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.

Special Provisions:

EUH208 Contains reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700). May produce an allergic reaction.

EUH208 Contains oxirane, mono[(C12-14-alkyloxy)methyl] derivs.. May produce an allergic reaction.
EUH205 Contains epoxy constituents. May produce an allergic reaction.

Contains:

bisphenol F - epoxy resin

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT/vPvB Ingredients are present

Other Hazards: No other hazards

This product contains crystalline silica (quartz sand). IARC has classified crystalline silica as a Group 1 carcinogen. Both IARC and NTP consider silica as a known human carcinogen. Evidence is based on the chronic and long-term exposure workers have had to respirable sized crystalline silica dust particles. Because this product is in liquid or paste form, it does not pose a dust hazard; therefore, this classification is not relevant. (Note: sanding of the hardened product may create a silica dust hazard)

This preparation contains low molecular weight epoxy resins. Cross sensitisation to other epoxies is possible. Avoid also exposure to spray mist and vapour.

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: KERAPOXY comp.A

Hazardous components within the meaning of the CLP regulation and related classification:

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥50 - <75 %	free crystalline silica (Ø >10 µ)	CAS:14808-60-7 EC:238-878-4		
≥10 - <20 %	reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	CAS:25068-38-6 EC:500-033-5 Index:603-074-00-8	Eye Irrit. 2, H319; Skin Irrit. 2, H315; Skin Sens. 1,1A,1B, H317; Aquatic Chronic 2, H411	01-2119456619-26-xxxx
≥2.5 - <5 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1, H317	01-2119485289-22-XXXX
≥1 - <2.5 %	bisphenol F - epoxy resin	CAS:9003-36-5 EC:500-006-8	Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 2, H411	01-2119454392-40-XXXX
≥0.49 - <1 %	free crystalline silica (Ø <10 µ)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	
≥0.25 - <0.49 %	2-butoxyethanol; ethylene glycol monobutyl ether	CAS:111-76-2 EC:203-905-0	Eye Irrit. 2, H319; Skin Irrit. 2, H315; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	01-2119475108-36

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Eye irritation
Eye damages
Skin Irritation
Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.
Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Use suitable breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Remove persons to safety.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Limit leakages with earth or sand.

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand
Retain contaminated washing water and dispose it.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Behaviour Note
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free crystalline silica (Ø >10 µ)	NDS	POLAND	0,300					frakcja respirabilna	
	National	DENMARK	0,3					DENMARK, inhalable aerosol inhalable aerosol	
	National	DENMARK	0,100					DENMARK, respirable aerosol respirable aerosol	
	SUVA	GERMANY	0,150					50 µg/m ³ (Partikel Durchmesser < 12 µm) - TRGS 906	
	National	SWITZERLAND	0,15					A	
	ACGIH	NNN	0,025					(R), A2 - Pulm fibrosis, lung cancer	
	National	NORWAY	0,300					K 7	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	National	BULGARIA	1,0						
	National	SWEDEN	0,100					SWEDEN, respirable aerosol	
free crystalline silica (Ø <10 µ)	National	NORWAY	0,100					K 7	
	NDS	POLAND	2,000					frakcja wdychalna	
	NDS	POLAND	0,300					frakcja respirabilna	
	National	DENMARK	0,3		0,600			DENMARK, inhalable aerosol inhalable aerosol	
	National	DENMARK	0,100		0,200			DENMARK, respirable aerosol respirable aerosol	
	ACGIH	NNN	0,025					(R), A2 - Pulm fibrosis, lung cancer	
	EU	NNN	0,025					A2 (R) - Pulm fibrosis, lung cancer	
	National	AUSTRIA	0,150					A*	
	2-butoxyethanol; ethylene glycol monobutyl ether	SUVA	NNN	49,000	10,000	98,000	20,000		
		NDS	NNN	98,000					
National		SWEDEN	50,000	10,000	100,000	20,000		SWEDEN, Short-term value, 15 minutes average value	
National		FINLAND	98,000	20,000	250,000	50,000		FINLAND, hud	
National		NORWAY	50,000	10,000				H E	
NDSch		NNN	200,000						
EU		NNN	98,000	20,000	246,000	50,000		Skin	
ACGIH		NNN		20,000				A3, BEI - Eye and URT irr	
DFG		GERMANY			98,000	20,000			
ACGIH		NNN		20,000				A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans; eye and upper respiratory tract irritation	
National		SWEDEN	50,000	10,000					
National		FRANCE	49,000	10,000	246,000	50,000			
National		SPAIN	98,000	20,000	245,000	50,000			
National		GREECE	120,000	25,000					
National		DENMARK	98,000	20,000					
National	FINLAND	98,000	20,000	250,000	50,000				
National	GERMANY	49,000	10,000						

National	PORTUGAL	98,000	20,000	246,000	50,000		
National	BELGIUM	98,000	20,000	246,000	50,000		
NDS	POLAND	98					
NDSCh	POLAND			200,000			
CHE	SWITZERLAND			98,000	20,000		
NDS	NETHERLANDS	100,000		246,000			
National	CZECH REPUBLIC	100,000					
National	HUNGARY	98,000		246,000			
Malaysi a OEL	MALAYSIA	96,700	20,000				Skin notation
National	ESTONIA	98,000	20,000	246,000	50,000		
National	LATVIA	98,000	20	246,000	50,000		
National	CZECH REPUBLIC		C	200,000			
National	SLOVAKIA		C	246,000			
National	SLOVAKIA	98,000	20,000				
National	SLOVENIA	98,000	20,000	245,000	50,000		
National	UNITED KINGDOM	123,000	25,000	246,000	50,000		
National	BULGARIA	98,000	20,000	246,000	50,000		
National	ROMANIA	98,000	20,000	246,000	50,000		
TUR	TURKEY	98,000	20,000	246	50		
National	LITHUANIA	50,000	10,000	100,000	20,000		
National	CROATIA	98	20	246	50		
EU	NNN	98	20	246	50	Indicative	Possibility of significant uptake through the skin

Biological Exposure Index

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
111-76-2	2-butoxyethanol; 200 ethylene glycol monobutyl ether		MGGCREAT	Urine	Butoxyacetic acid (BAA)	End of turn

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency	Remark
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	25068-38-6	0,006 mg/l	Fresh Water		
		0,0006 mg/l	Marine water		
		0,0627 mg/kg	Freshwater sediments		
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	0,00627 mg/kg	Marine water sediments		
		0,00072 mg/l	Marine water		
		0,0072 mg/l	Fresh Water		
		66,77 mg/kg	Freshwater sediments		
		6,677 mg/kg	Marine water sediments		

	80,12 mg/kg	Soil
	10 mg/l	Microorganisms in sewage treatments
bisphenol F - epoxy resin 9003-36-5	10 mg/l	Microorganisms in sewage treatments
	0,003 mg/l	Fresh Water
	0,294 mg/kg	Freshwater sediments
	0,0003 mg/l	Marine water
	0,0294 mg/kg	Marine water sediments
	0,237 mg/kg	Soil

Derived No Effect Level. (DNEL)

Component	CAS-No.	Worker Industrial	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	25068-38-6	8,3 mg/kg			Human Dermal		Short Term, systemic effects	
		12,25 mg/m3			Human Inhalation		Short Term, systemic effects	
		8,3 mg/kg			Human Dermal		Long Term, systemic effects	
		12,25 mg/m3			Human Inhalation		Long Term, systemic effects	
				3,571 mg/kg		Human Dermal		Short Term, systemic effects
				0,75 mg/kg		Human Oral		Short Term, systemic effects
				3,571 mg/kg		Human Dermal		Long Term, systemic effects
2-butoxyethanol; ethylene glycol monobutyl ether	111-76-2	135 ppm	426 mg/m3		Human Inhalation		Short Term, systemic effects	
		89 mg/kg	44,5 mg/kg		Human Dermal		Short Term, systemic effects	
			13,4 mg/kg		Human Oral		Short Term, systemic effects	
		50 ppm	123 mg/m3		Human Inhalation		Short Term, local effects	
		75 mg/kg	38 mg/kg		Human Dermal		Long Term, systemic effects	
		20 ppm	49 mg/m3		Human Inhalation		Long Term, systemic effects	
			3,2 mg/kg		Human Oral		Long Term, systemic effects	

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; EN 374:

Polychloroprene - CR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluorinated rubber - FKM: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Neoprene gloves are suggested (0,5 mm) not recommended gloves: not waterproof gloves

Respiratory protection:

Personal Protective Equipment should comply with relevant CE standards (as EN 374 for gloves and EN 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

In case of insufficient ventilation use mask with ABEKP filters (EN 14387).

Hygienic and Technical measures

N.A.

Appropriate engineering controls:

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: paste various

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: N.A.

Evaporation rate: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: 0.01

Relative density: 1.65 g/cm³

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): N.A. - This product is a mixture

Auto-ignition temperature: N.A. - No explosive or spontaneous ignition in contact with air at room temperature

Decomposition temperature: N.A.

Viscosity: 2,000,000.00 cPs

Explosive properties: == - No components with explosive properties

Oxidizing properties: N.A. - No component with oxidizing properties

Solid/gas flammability: N.A.

9.2. Other information

No additional information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

free crystalline silica (Ø >10 µ)	a) acute toxicity	LD50 Oral > 2000 mg/kg LD50 Skin > 2000 mg/kg
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	a) acute toxicity	LD50 Oral Rat > 15000 mg/kg LD50 Skin Rabbit > 23000 mg/kg LD50 Oral Rat = 11400 mg/kg
	i) STOT-repeated exposure	NOAEL Oral Rat = 50 mg/kg NOAEL Skin Rat = 100 mg/kg
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg LD50 Skin Rabbit > 3987 mg/kg LD50 Oral Rat = 17100 mg/kg
bisphenol F - epoxy resin	a) acute toxicity	LD50 Oral Rat > 10000 mg/kg LD50 Skin Rat > 2000 mg/kg LD50 Oral Rat > 2 g/kg
	i) STOT-repeated exposure	NOAEL Oral = 250 mg/kg
free crystalline silica (Ø <10 µ)	a) acute toxicity	LD50 Oral Rat = 500 mg/kg
2-butoxyethanol; ethylene glycol monobutyl ether	a) acute toxicity	LC50 Inhalation Rat = 2,2 mg/l 4h LD50 Oral Rat = 615 mg/kg LD50 Skin Rabbit = 405 mg/kg LD50 Skin Rabbit = 99 mg/kg LC50 Inhalation Rat = 450 ppm 4h LC50 Inhalation Rat = 486 ppm 4h LD50 Oral Rat = 470 mg/kg

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure

Toxicological kinetics, metabolism and distribution information

i) STOT-repeated exposure

j) aspiration hazard

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	CAS: 25068-38-6 - EINECS: 500-033-5 - INDEX: 603-074-00-8	a) Aquatic acute toxicity : LC50 Fish > 2 mg/L 96 a) Aquatic acute toxicity : EC50 Daphnia > 1,8 mg/L 48 a) Aquatic acute toxicity : LC50 Algae > 11 mg/L 72 a) Aquatic acute toxicity : LC50 Daphnia = 1,3 mg/L 96 b) Aquatic chronic toxicity : NOEC Daphnia = 0,3 mg/L
oxirane, mono[(C12-14-alkoxy)methyl] derivs.	CAS: 68609-97-2 - EINECS: 271-846-8 - INDEX: 603-103-00-4	a) Aquatic acute toxicity : EC50 Daphnia = 7,20000 mg/L 48 a) Aquatic acute toxicity : EC50 Algae = 844,00000 mg/L 72 a) Aquatic acute toxicity : LC50 Fish > 1800,00000 mg/L 96
bisphenol F - epoxy resin	CAS: 9003-36-5 - EINECS: 500-006-8	a) Aquatic acute toxicity : EC50 Fish = 2,54 mg/L 96 a) Aquatic acute toxicity : EC50 Daphnia = 2,55 mg/L 48
2-butoxyethanol; ethylene glycol monobutyl ether	CAS: 111-76-2 - EINECS: 203-905-0	a) Aquatic acute toxicity : EC50 Daphnia > 100 mg/L 48 a) Aquatic acute toxicity : LC50 Fish > 100 mg/L 96 a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 1490 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 2950 mg/L 96h IUCLID a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna > 1000 mg/L 48h EPA

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Product:

Do not dispose of waste into sewers.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to an authorized waste disposal service.
Contaminated packaging:
Empty remaining content.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number

N.A.

14.2. UN proper shipping name

N.A.

14.3. Transport hazard class(es)

N.A.

14.4. Packing group

N.A.

14.5. Environmental hazards

N.A.

14.6. Special precautions for user

N.A.

Road and Rail (ADR-RID) :

N.A.

ADR-Hazard identification number: NA

Air (IATA) :

N.A.

Sea (IMDG) :

N.A.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

N.A.

SECTION 15: Regulatory information

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

VOC (2004/42/EC) : N.A. g/l

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EU) 2015/830

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

German Water Hazard Class.

N.A.

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 46, 46A

SVHC Substances:

No data available

MAL-kode: 00-5 (1993) A+B: 00-5 (1993)

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1-1A-1B	Skin Sens. 1,1A,1B	Skin Sensitisation, Category 1,1A,1B
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1A	Calculation method
4.1/C3	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.
CMR: Carcinogenic, Mutagenic and Reprotoxic
COD: Chemical Oxygen Demand
COV: Volatile Organic Compound
CSA: Chemical Safety Assessment
CSR: Chemical Safety Report
DMEL: Derived Minimal Effect Level
DNEL: Derived No Effect Level.
DPD: Dangerous Preparations Directive
DSD: Dangerous Substances Directive
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 5. FIRE-FIGHTING MEASURES
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 13. DISPOSAL CONSIDERATIONS
- 15. REGULATORY INFORMATION