

Safety Data Sheet

MAPECOAT I 24 parte A

Safety Data Sheet dated: 27/05/2020 - version 3



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

1.1. Product identifier

Mixture identification:

Trade name: MAPECOAT I 24 parte A

Trade code: 905C000

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

Recommended use: Epoxy paint

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)

Flam. Liq. 3	Flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
Aquatic Chronic 2	Toxic 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:

H226	Flammable liquid and vapour.
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.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire, use a foam fire extinguisher to extinguish.
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.

Special Provisions:

EUH208	Contains reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700). May produce an allergic reaction.
EUH208	Contains 1,6-Hexanediol Diglycidyl Ether. 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 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: MAPECOAT I 24 parte A

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

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥25 - <50 %	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, H317; Aquatic Chronic 2, H411	01-2119456619-26-xxxx
≥5 - <10 %	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
≥5 - <10 %	1,6-Hexanediol Diglycidyl Ether	CAS:933999-84-9, 16096-31-4 EC:618-939-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412	01-2119463471-41-0005
≥0.1 - <0.25 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29-xxxx

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:

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a foam fire extinguisher to extinguish.

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 all sources of ignition.

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

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

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/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	National	BULGARIA		1,0					

2-methoxy-1-methylethyl acetate	ACGIH	NNN		275,000	50,000	550,000	100,000		Skin
	SUVA	NNN		275,000	50				
	National	SWEDEN		250,000	50	400,000	75,000		SWEDEN, Short-term value, 15 minutes average value
	National	NORWAY		270,000	50				H E
	National	FINLAND		270,000	50,000	550,000	100,000		FINLAND, hud
	NDS	NNN		260,000					
	NDSCh	NNN		520,000					
	EU	NNN		275,000	50,000	550,000	100,000		Skin
	National	GREECE		275	50	550	100		
	National	DENMARK		275	50				
	National	BELGIUM		275	50	550	100		
	National	CZECH REPUBLIC	C			550			
	National	SLOVAKIA	C			550			
	EU	NNN		275,000	50	550,000	100,000	Indicative	Possibility of significant uptake through the skin
	DFG	GERMANY	C			270	50		
	National	SWEDEN		275	50				
	National	FRANCE		275	50	550	100		
	National	SPAIN		275	50	550	100		
	National	FINLAND		270	50	550	100		
	National	GERMANY		270	50				
	National	PORTUGAL		275	50	550	100		
	National	NORWAY		270	50	337,5	75		
	NDS	POLAND		260					
	NDSCh	POLAND				520			
	CHE	SWITZERLAND				275	50		
	NDS	NETHERLANDS		550					
	National	CZECH REPUBLIC		270					
	National	HUNGARY		275		550			
	National	ESTONIA		275	50	550	100		
	National	LATVIA		275	50	550	100		
	National	SLOVAKIA		275	50				
	National	SLOVENIA		275	50	550	100		
	National	UNITED KINGDOM		274	50	548	100		
	National	BULGARIA		275,0	50	550,0	100		
	National	ROMANIA		275	50	550	100		
	TUR	TURKEY		275	50	550	100		
	National	LITHUANIA		250	50	400	75		
	National	CROATIA		275	50	550	100		
	EU			275	50	550	100	Indicative	Possibility of significant uptake through the skin

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
		0,00627 mg/kg	Marine water sediments
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
1,6-Hexanediol Diglycidyl Ether	933999-84-9, 16096-31-4	1 mg/l	Microorganisms in sewage treatments
		0,0115 mg/l	Fresh Water
		0,283 mg/kg	Freshwater sediments
		0,00115 mg/l	Marine water
		0,0283 mg/kg	Marine water sediments
		0,223 mg/kg	Soil
2-methoxy-1-methylethyl acetate	108-65-6	0,635 mg/l	Fresh Water
		0,0635 mg/l	Marine water
		3,29 mg/kg	Freshwater sediments
		0,329 mg/kg	Marine water sediments
		6,35 mg/l	Intermittent release
		100 mg/l	Microorganisms in sewage treatments
		0,29 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
			0,75 mg/kg	Human Oral	Long Term, systemic effects
1,6-Hexanediol Diglycidyl Ether	933999-84- 9, 16096- 31-4	2,8 mg/kg		Human Dermal	Long Term, systemic effects
		4,9 mg/m3		Human Inhalation	Long Term, systemic effects
2-methoxy-1- methylethyl acetate	108-65-6	796 mg/kg	320 mg/kg	Human Dermal	Long Term, systemic effects
		275 mg/m3	33 mg/m3	Human Inhalation	Long Term, systemic effects
			36 mg/kg	Human Oral	Long Term, systemic effects
		550 mg/m3		Human Inhalation	Short Term, local 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: Liquid various

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: 78 °C (172 °F)

Flash point: 48 °C (118 °F)
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 1,43 g/cm³
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: 5.000,00 cPs
Explosive properties: N.A.
Oxidizing properties: N.A.
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

Avoid contact with combustible materials. The product could catch fire.

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:

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
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
1,6-Hexanediol Diglycidyl Ether	a) acute toxicity	LD50 Oral Rat = 2190 mg/kg
		LD50 Skin Rabbit > 4900 mg/kg

i) STOT-repeated exposure

NOAEL Oral = 200 mg/kg

NOAEL Inhalation = 16 mg/m³

2-methoxy-1-methylethyl acetate a) acute toxicity

LD50 Oral Rat > 5000 mg/kg

LD50 Skin Rabbit > 5000 mg/kg

LC50 Inhalation Dust Rat > 23,8 mg/l

LD50 Skin Rabbit > 5 g/kg

LD50 Oral Rat = 8532 mg/kg

e) germ cell mutagenicity NOAEL Inhalation Rat = 1000 ppm

g) reproductive toxicity NOAEL Inhalation Rat = 500 ppm

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:

Toxic 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
bisphenol F - epoxy resin	CAS: 9003-36-5 - EINECS: 500-006-8	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 a) Aquatic acute toxicity : EC50 Fish = 2,54 mg/L 96
1,6-Hexanediol Diglycidyl Ether	CAS: 933999-84-9, 16096-31-4 - EINECS: 618-939-5	a) Aquatic acute toxicity : EC50 Daphnia = 2,55 mg/L 48 a) Aquatic acute toxicity : EC50 Daphnia = 47 mg/L 48
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203-603-9 - INDEX: 607- 195-00-7	a) Aquatic acute toxicity : LC50 Fish = 30 mg/L 96 a) Aquatic acute toxicity : EC50 Algae = 23,1 mg/L 48 a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 30 mg/L 96h ECHA

- a) Aquatic acute toxicity : EC50 Daphnia > 500 mg/L 48
b) Aquatic chronic toxicity : NOEC Fish = 47,5 mg/L - 14 d
b) Aquatic chronic toxicity : NOEC Daphnia = 100 mg/L - 21 d
a) Aquatic acute toxicity : EC50 Algae > 1000 mg/L 72
a) Aquatic acute toxicity : NOEC Algae = 1000 mg/L 96
a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 161 mg/L 96h IUCLID

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna > 500 mg/L 48h IUCLID

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. Send to authorised disposal plants or for incineration under controlled conditions. 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

14.1. UN number

1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT RELATED MATERIAL (epoxy resins)

IATA-Technical name: PAINT RELATED MATERIAL (epoxy resins)

IMDG-Technical name: PAINT RELATED MATERIAL (epoxy resins)

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: Yes

Environmental Pollutant: Yes

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR exempt: No

ADR-Label: 3

ADR-Hazard identification number: -

ADR-Special Provisions: 163 367 650

ADR-Transport category (Tunnel restriction code): 3 (E)

Air (IATA) :

IATA-Passenger Aircraft: 355

IATA-Cargo Aircraft: 366

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisioning: A3 A72 A192

Sea (IMDG) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 163 223 367 955

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-E, S-E

IMDG-MFAG: 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) : 130 (A+B) 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)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

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

N.A.

German Water Hazard Class.

2

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, 40

Restrictions related to the substances contained: 30, 70

SVHC Substances:

No data available

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
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
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
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
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
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
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2.6/3	On basis of test data
3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1A	Calculation method
4.1/C2	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:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 5. FIRE-FIGHTING MEASURES
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 10. STABILITY AND REACTIVITY
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION