

## Safety Data Sheet

### MAPEPROOF ONE COAT comp.A

Safety Data Sheet dated: 16/09/2020 - version 3



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

### 1.1. Product identifier

Mixture identification:

Trade name: MAPEPROOF ONE COAT comp.A

Trade code: 9028212

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

Recommended use: Epoxy resins

Uses advised against: N.A.

### 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)

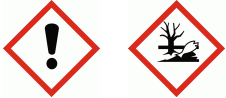
Responsible: sicurezza@mapei.it

### 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 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:

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:

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.
P391	Collect spillage.

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

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

**3.1. Substances**

N.A.

**3.2. Mixtures**

Mixture identification: MAPEPROOF ONE COAT comp.A

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

Concentration (% w/w)	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
≥10 - <20 %	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 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2; Skin Sens. 1, H315, H317	01-2119485289-22-XXXX

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**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)

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**SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

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.

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## 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

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## 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

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## 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 <sup>3</sup>	Long Term ppm	Short Term mg/m <sup>3</sup>	Short Term ppm	Behaviour Note
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700)	National	BULGARIA		1.0				

#### Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency	Remark
reaction product: bisphenol-A-	25068-38-6	0.006 mg/l	Fresh Water		

(epichlorhydrin); epoxy resin (number average molecular weight <= 700)

		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
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	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

**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	

## 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 ISO 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 ISO 374 for gloves and EN ISO 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.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: Liquid Grey

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: N.A.

Relative density: 1,40 g/cm<sup>3</sup>

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Viscosity: 6.000,00 cPs

Explosive properties: ==

Oxidizing properties: N.A.

Solid/gas flammability: N.A.

### 9.2. Other information

No additional information

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## 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.

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## 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
oxirane, mono[(C12-14- alkyloxy)methyl] derivs.	a) acute toxicity	LD50 Oral Rat = 19200 mg/kg
		LD50 Skin Rabbit > 4500 mg/kg
		LD50 Skin Rabbit > 3987 mg/kg
		LD50 Oral Rat = 17100 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

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## 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
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reaction product: bisphenol-A- CAS: 25068-38-6 - a) Aquatic acute toxicity : LC50 Fish > 2 mg/L 96  
(epichlorhydrin); epoxy resin EINECS: 603-074-  
(number average molecular weight 00-8 - INDEX: 500-  
<= 700) 033-5

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

bisphenol F - epoxy resin CAS: 9003-36-5 -  
INDEX: 500-006-8

a) Aquatic acute toxicity : EC50 Fish = 2.54 mg/L 96

oxirane, mono[(C12-14- CAS: 68609-97-2 -  
alkyloxy)methyl] derivs. EINECS: 603-103-  
00-4 - INDEX: 271-  
846-8

a) Aquatic acute toxicity : EC50 Daphnia = 2.55 mg/L 48  
a) Aquatic acute toxicity : LC50 Fish > 5000 mg/L 96

a) Aquatic acute toxicity : EC50 Algae = 843 mg/L 72  
a) Aquatic acute toxicity : LC50 Fish > 1800 mg/L 96  
b) Aquatic chronic toxicity : NOEC Algae = 500 mg/L 72  
a) Aquatic acute toxicity : EC50 Daphnia = 10 mg/L

## 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.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

A waste code (EWC) according to European List of Waste (LoW) cannot be specified, due to dependence on the usage. Contact and send to an authorized waste disposal service.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Hazardous waste: Yes

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

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## SECTION 14: Transport information

### 14.1. UN number

3082

### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)  
IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resins)

#### 14.3. Transport hazard class(es)

ADR-Class: 9  
IATA-Class: 9  
IMDG-Class: 9

#### 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-Label: 9  
ADR-Hazard identification number: 90  
ADR-Special Provisions: 274 335 375 601  
ADR-Transport category (Tunnel restriction code): 3 (-)

Air ( IATA ) :

IATA-Passenger Aircraft: 964  
IATA-Cargo Aircraft: 964  
IATA-Label: 9  
IATA-Subsidiary hazards: -  
IATA-Erg: 9L  
IATA-Special Provisioning: A97 A158 A197

Sea ( IMDG ) :

IMDG-Stowage Code: Category A  
IMDG-Stowage Note: -  
IMDG-Subsidiary hazards: -  
IMDG-Special Provisioning: 274 335 969  
IMDG-EMS: F-A, S-F

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

N.A.

These substances, when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids, or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to provisions of ADR, IMDG and IATA DGR.

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## 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. 2018/669 (ATP 11 CLP)

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

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. 2018/1480 (ATP 13 CLP)

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

<b>Seveso III category according to Annex 1, part 1 (tonnes)</b>	<b>Lower-tier threshold (tonnes)</b>	<b>Upper-tier threshold (tonnes)</b>
Products belongs to category E2	200	500

#### **German Water Hazard Class (WGK)**

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: None

#### **SVHC Substances:**

No data available

#### **15.2. Chemical safety assessment**

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

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### **SECTION 16: Other information**

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Hazard class and hazard category</b>	<b>Description</b>
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
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

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

<b>Classification according to Regulation (EC) Nr. 1272/2008</b>	<b>Classification procedure</b>
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
- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 13. DISPOSAL CONSIDERATIONS
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION