

## Safety Data Sheet

### PURTOP 400 M parte B

Safety Data Sheet dated: 10/12/2020 - version 3



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

### 1.1. Product identifier

Mixture identification:

Trade name: PURTOP 400 M parte B

Trade code: 9073564

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

Recommended use: Polyurethane membrane

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)

Acute Tox. 4	Harmful if inhaled.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Resp. Sens. 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 2	Suspected of causing cancer.
STOT SE 3	May cause respiratory irritation.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

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

#### Pictograms and Signal Words



Danger

#### Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements:

P201	Obtain special instructions before use.
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P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER.

#### Special Provisions:

EUH204 Contains isocyanates. May produce an allergic reaction.

#### Contains:

Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1-methylenebis(isocyanatobenzene)

Reaction mass of 4,4-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

4,4'-methylenediphenyl diisocyanate;  
diphenylmethane-4,4'-diisocyanate

4,4'-Methylenediphenyl diisocyanate,  
oligomers

#### 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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: PURTOP 400 M parte B

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

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥50 - <75 %	Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1-methylenebis(isocyanatobenzene)	CAS:39420-98-9 EC:polymer	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; STOT SE 3, H335; STOT RE 2, H373	
≥20 - <25 %	o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	CAS:5873-54-1 EC:227-534-9 Index:615-005-00-9	Carc. 2, H351; STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; Acute Tox. 4, H332	01-2119480143-45-0000
≥10 - <20 %	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9	Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; STOT RE 2, H373; Carc. 2, H351	01-2119457014-47

## 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:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

#### **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.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

#### **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.

Exercise the greatest care when handling or opening the container.

Use localized ventilation system.

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/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	NDS	NNN		0.03					
	NDSCh	NNN		0.09					
	National	GERMANY		0.05					
	NDS	POLAND		0.03					
	NDSCh	POLAND				0.09			
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	National	SLOVENIA		0.05		0.05			
	National	NORWAY		0.050	0.005		0.010		A 4
	SUVA	NNN		0.020		0.020			
	National	SWEDEN	C	0.030	0.002	0.050	0.005		SWEDEN, Ceiling limit value
	NDS	NNN		0.030					
	NDSP	NNN		0.090					
	ACGIH	NNN			0.005				Resp sens
	National	POLAND		0.030		0.090			
	National	AUSTRIA		0.050	0.005	0.100	0.010		
	DFG	GERMANY	C			0.050			
	ACGIH	NNN			0.005				respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
	National	SWEDEN		0.030	0.002				
	National	FRANCE		0.100	0.010	0.200	0.020		
	National	SPAIN		0.052	0.005				
	National	DENMARK		0.050	0.005				
	National	GERMANY		0.050					
	National	PORTUGAL			0.005				
	National	BELGIUM		0.052	0.005				
	NDS	POLAND		0.030					
	NDSCh	POLAND				0.090			
	National	CZECH REPUBLIC		0.050					
	National	HUNGARY		0.05		0.050			
	Malaysi a OEL	MALAYSIA		0.051	0.005				
	National	ESTONIA		0.050	0.005	0.100	0.010		
	National	CZECH REPUBLIC	C			0.100			
	National	SLOVAKIA		0.002					
	National	SLOVAKIA		0.030					
	National	SLOVENIA		0.050		0.050			
	National	ROMANIA				0.150			

National LITHUANIA	0.050	0.005		
National LITHUANIA C			0.100	0.010
ACGIH		0.005		
				respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
National NORWAY	0.05	0.005		0.01
National SLOVENIA	0.05	0.005	0.05	0.005

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

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency	Remark
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	5873-54-1	1 mg/l	Fresh Water		
		0.1 mg/l	Marine water		
		1 mg/kg	Soil		
		1 mg/l	Microorganisms in sewage treatments		
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	101-68-8	1 mg/l	Fresh Water		
		0.1 mg/l	Marine water		
		1 mg/kg	Soil		
		1 mg/l	Microorganisms in sewage treatments		
		10.000000 mg/l	Intermittent release		

#### Derived No Effect Level. (DNEL)

Component	CAS-No.	Worker Industrial	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	5873-54-1	50 mg/kg		25 mg/kg	Human Dermal		Short Term, systemic effects
		0.1 mg/m3		0.05 mg/m3	Human Inhalation		Short Term, systemic effects
		28.7 mg/cm2		17.2 mg/cm2	Human Dermal		Short Term, local effects
		0.1 mg/m3		0.05 mg/m3	Human Inhalation		Short Term, local effects
		0.05 mg/m3		0.025 mg/m3	Human Inhalation		Long Term, systemic effects
		0.05 mg/m3		0.025 mg/m3	Human Inhalation		Long Term, local effects
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	101-68-8			20 mg/kg	Human Oral		Short Term, systemic effects
		50 mg/kg			Human Dermal		Short Term, systemic effects
		0.1 mg/m3			Human Inhalation		Short Term, systemic effects
		0.1 mg/m3			Human Inhalation		Short Term, local effects

0.05 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
0.05 mg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
25 mg/kg	Human Dermal	Short Term, systemic effects
0.05 mg/m <sup>3</sup>	Human Inhalation	Short Term, systemic effects
20 mg/kg	Human Oral	Short Term, systemic effects
0.05 mg/m <sup>3</sup>	Human Inhalation	Short Term, local effects
0.025 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
0.025 mg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
28.7 mg/cm <sup>2</sup>	17.2 mg/cm <sup>2</sup> Human Dermal	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).

Use adequate protective respiratory equipment.

### 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 light yellow

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: 300 °C (572 °F)

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: 1.11 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: 800.00 cPs  
Explosive properties: N.A.  
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:

Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1-methylenebis (isocyanatobenzene)	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rabbit > 9400 mg/kg	
		LD50 Inhalation Dust = 1.5 mg/l	
	g) reproductive toxicity	NOAEL > 4 mg/m3	
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	a) acute toxicity	LD50 Skin Rabbit > 9400 mg/kg	
		LD50 Oral Rat > 2000 mg/kg	
	e) germ cell mutagenicity	NOAEL Inhalation Rat = 12 mg/m3	
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rabbit > 9400 mg/kg	
		LC50 Inhalation Dust Rat = 0.368 mg/l 4h	
		LC50 Inhalation Rat = 369 mg/m3 4h	
		LD50 Oral Rat = 31600 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Skin Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Skin Mouse Positive	
		Respiratory Sensitization Inhalation Positive	
	f) carcinogenicity	Carcinogenicity Inhalation Rat = 6 mg/m3	2 y

**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:

#### List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, polymer with 1,1-methylenebis(isocyanatobenzene)	CAS: 39420-98-9 - INDEX: polymer	a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
		b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	CAS: 5873-54-1 - EINECS: 615-005-00-9 - INDEX: 227-534-9	a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24
		b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d
		a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72
		c) Bacteria toxicity : EC50 > 100 mg/L 3
		d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d
		e) Plant toxicity : NOEC > 1000 mg/kg - 14 d
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	CAS: 101-68-8 - EINECS: 615-005-00-9 - INDEX: 202-966-0	a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24
		b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d
		a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72
		c) Bacteria toxicity : EC50 > 100 mg/L 3
		d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d
		e) Plant toxicity : NOEC > 1000 mg/kg - 14 d

### 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



## 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

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.

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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):

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: 56

#### 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
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.

Code	Hazard class and hazard category	Description
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.6/2	Carc. 2	Carcinogenicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2

#### 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
3.1/4/Inhal	Calculation method
3.2/2	Calculation method
3.3/2	Calculation method
3.4.1/1	Calculation method
3.4.2/1	Calculation method
3.6/2	Calculation method
3.8/3	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
- 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