

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

### 1.1. Product identifier

Mixture identification:

Trade name: MAPEPLAN ADS 210

Trade code: 76701021001

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

Recommended use: Adhesive

Uses advised against: Data not available

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

Company: POLYGLASS S.p.A.

Registered office: Viale Jenner, 4 - 20159 Milano

Headquarter: Via dell'Artigianato, 34- 31047 Ponte di Piave (TV)

Responsible: info@polyglass.it

### 1.4. Emergency telephone number

Poison Centre - Ospedale di Niguarda - Milan - Tel. +39/02/66101029

POLYGLASS S.p.A. Tel: +39-0422-7547

Fax: +39-0422-854118 (office hours)

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

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

Aerosols 1	Extremely flammable aerosol. Pressurized container: may burst if heated.
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 drowsiness or dizziness.
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:

H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P501	Dispose of contents/container in accordance with applicable regulations.

**Contains:**

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

methyl acetate

**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: MAPEPLAN ADS 210

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

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥25 - <50 %	dimethyl ether	CAS:115-10-6 EC:204-065-8	Flam. Gas 1, H220; Press. Gas (Liq.), H280	01-2119472128-37-XXXX
≥20 - <25 %	methyl acetate	CAS:79-20-9 EC:201-185-2 Index:607-021-00-X	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119459211-47-XXXX
≥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. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; STOT RE 2, H373; Carc. 2, H351	01-2119457014-47-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:  
(see paragraph 4.1)

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

CO2 or Dry chemical fire extinguisher.

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 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

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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

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

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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/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour Note
dimethyl ether	DFG	GERMANY	C			15200	8000	
	National	SWEDEN		950	500			
	National	FRANCE		1920	1000			
	National	SPAIN		1920	1000			

	National	GREECE	1920	1000			
	National	DENMARK	1920	1000			
	National	FINLAND	2000	1000			
	National	GERMANY	1900	1000			
	National	PORTUGAL	1920	1000			
	National	NORWAY	384	200	480	250	
	National	BELGIUM	1920	1000			
	NDS	POLAND	1000				
	NDS	NETHERLANDS	950		1500		
	National	CZECH REPUBLIC	1000				
	National	HUNGARY	1920		7680		
	National	ESTONIA	1920	1000			
	National	LATVIA	1920	1000			
	National	CZECH REPUBLIC	C		2000		
	National	SLOVAKIA	1920	1000			
	National	SLOVENIA	1920	1000			
	National	UNITED KINGDOM	766	400	958	500	
	National	BULGARIA	1920	1000			
	National	ROMANIA	1920	1000			
	TUR	TURKEY	1920	1000			
	National	LITHUANIA	1920	1000	2280	1500	
	National	CROATIA	1920	1000			
	EU		1920	1000			Indicative
	National	HUNGARY	1920				
methyl acetate	SUVA	NNN	100	310	400	1240	
	National	SWEDEN	450	150	900	300	SWEDEN, Short-term value, 15 minutes average value
	National	FINLAND	610	200	770	250	
	National	NORWAY	305	100			
	NDS	NNN	250				
	NDSCh	NNN	600				
	ACGIH	NNN		200		250	Headache, dizziness, nausea, eye dam (degeneration of ganglion cells in the retina)
	National	NORWAY	455	150	910	300	
	DFG	GERMANY	C		1240	400	
	ACGIH			200		250	headache;dizziness; nausea;eye damage (degeneration of ganglion cells in the retina)
	National	SWEDEN	450	150			
	National	FRANCE	610	200	760	250	
	National	SPAIN	616	200	770	250	
	National	GREECE	610	200	760	250	
	National	DENMARK	455	150			
	National	GERMANY	620	200			
	National	PORTUGAL		200		250	
	National	NORWAY	305	100	381,25	125	
	National	BELGIUM	615	200	768	250	
	NDS	POLAND	250				
	NDSCh	POLAND			600		

	CHE	SWITZERLAND			1240	400	
	National	CZECH REPUBLIC	600				
	National	HUNGARY	610		2440		
	Malaysia OEL	MALAYSIA	606	200			
	National	ESTONIA	450	150	900	300	
	National	LATVIA	100				
	National	CZECH REPUBLIC			800		C
	National	SLOVAKIA			770		C
	National	SLOVAKIA	310	100			
	National	SLOVENIA	610	200	2440	800	
	National	UNITED KINGDOM	616	200	770	250	
	National	ROMANIA	200	63	600	188	
	National	LITHUANIA	450	150	900	300	
	National	CROATIA	616	200	770	250	
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'- diisocyanate	National	NORWAY	0,050	0,005			A 4
	SUVA	NNN	0,020		0,020		
	National	SWEDEN	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			0,050		C
	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		
	Malaysia OEL	MALAYSIA	0,051	0,005			
	National	ESTONIA	0,050	0,005	0,100	0,010	
	National	CZECH REPUBLIC			0,100		C
	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

### Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency	Remark
dimethyl ether	115-10-6	0,155 mg/l	Fresh Water		
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 Industr y	Worker Profession al	Consumer	Exposure Route	Exposure Frequency	Remark	
dimethyl ether	115-10-6	1894 mg/m3		471 ppm	Human Inhalation	Long Term, systemic effects		
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	101-68-8	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/m3			Human Inhalation	Long Term, systemic effects		
		0,05 mg/m3			Human Inhalation	Long Term, local effects		
				25 mg/kg		Human Dermal	Short Term, systemic effects	
				0,05 mg/m3		Human Inhalation	Short Term, systemic effects	
				20 mg/kg		Human Oral	Short Term, systemic effects	
				0,05 mg/m3		Human Inhalation	Short Term, local effects	
				0,025 mg/m3		Human Inhalation	Long Term, systemic effects	
		0,025 mg/m3		Human Inhalation	Long Term, local effects			
		28,7 mg/cm2		17,2 mg/cm2	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.

Use adequate protective respiratory equipment.

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 Gas

Appearance and colour: aerosol 4,50012,

Odour: ether-like

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point:  $-41\text{ }^{\circ}\text{C}$  ( $-42\text{ }^{\circ}\text{F}$ )

Evaporation rate: N.A.

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: N.A.

Solubility in water: Insoluble

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

Auto-ignition temperature:  $226,00\text{ }^{\circ}\text{C}$  - No explosive or spontaneous ignition in contact with air at room temperature

Decomposition temperature: N.A.

Viscosity: N.A.

Kinematic viscosity:  $K_v > 20,5$

Explosive properties: N.A. - 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

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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

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

### 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:

dimethyl ether	a) acute toxicity	LC50 Inhalation Rat = 308 mg/l 4h LC50 Inhalation Gas Rat = 164 LC50 Inhalation Rat = 164000 ppm 4h
methyl acetate	a) acute toxicity	LD50 Skin Rabbit > 5 g/kg LC50 Inhalation Rat > 49000 mg/m <sup>3</sup> 4h LD50 Oral Rat > 5 g/kg
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/m <sup>3</sup> 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/m <sup>3</sup> 2 y
	g) reproductive toxicity	NOAEL Inhalation Rat = 12 mg/m <sup>3</sup> 20 d

**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:

#### List of Eco-Toxicological properties of the product

Component	Ecotox Infos
MAPEPLAN ADS 210	a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96 a) Aquatic acute toxicity : EC50 Daphnia > 500 mg/L 48 a) Aquatic acute toxicity : EC50 Algae = 1640 mg/L 72

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

Component	Ident. Numb.	Ecotox Infos
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methyl acetate

CAS: 79-20-9 - EINECS: 201-185-2 - INDEX: 607-021-00-X a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 295 mg/L 96h EPA

a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio 250 mg/L 96h IUCLID  
a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus > 120 mg/L 72h IUCLID

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 1026,7 mg/L 48h IUCLID

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

CAS: 101-68-8 - EINECS: 202-966-0 - INDEX: 615-005-00-9 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

## 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

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.

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## SECTION 14: Transport information

### 14.1. UN number

3501

### 14.2. UN proper shipping name

ADR-Shipping Name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.

IATA-Technical name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.

IMDG-Technical name: CHEMICAL UNDER PRESSURE, FLAMMABLE, N.O.S.

### 14.3. Transport hazard class(es)

ADR-Class: 2

IATA-Class: 2.1

IMDG-Class: 2.1

### 14.4. Packing group

ADR-Packing Group: -

IATA-Packing group: -

IMDG-Packing group: -

#### 14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

#### 14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: 2.1

ADR-Hazard identification number: 23

ADR-Special Provisions: 274 659

ADR-Transport category (Tunnel restriction code): 2 (B/D)

Air (IATA) :

IATA-Passenger Aircraft: Forbidden

IATA-Cargo Aircraft: 218

IATA-Label: 2.1

IATA-Subsidiary hazards: -

IATA-Erg: 10L

IATA-Special Provisioning: A1 A187

Sea (IMDG) :

IMDG-Stowage Code: Category D SW2

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 274 362

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-D, S-U

IMDG-MFAG: 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 to 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):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Products belongs to category P3a	150	500

#### 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: 40

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.

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**SECTION 16: Other information**

<b>Code</b>	<b>Description</b>
EUH066	Repeated exposure may cause skin dryness or cracking.
H220	Extremely flammable gas.
H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H225	Highly flammable liquid and vapour.
H280	Contains gas under pressure; may explode if heated.
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.
H336	May cause drowsiness or dizziness.
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.

<b>Code</b>	<b>Hazard class and hazard category</b>	<b>Description</b>
2.2/1	Flam. Gas 1	Flammable gas, Category 1
2.3/1	Aerosols 1	Aerosol, Category 1
2.5/L	Press. Gas (Liq.)	Gases under pressure (Liquefied gas)
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
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
3.4.1/1-1A-1B	Resp. Sens. 1,1A,1B	Respiratory Sensitisation, Category 1,1A,1B
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
3.6/2	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]:**

<b>Classification according to Regulation (EC) Nr. 1272/2008</b>	<b>Classification procedure</b>
2.3/1	On basis of test data
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
3.9/2	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
- 5. FIRE-FIGHTING MEASURES
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS
- 15. REGULATORY INFORMATION