

Safety Data Sheet

PLASTIMUL PRIMER SB

Safety Data Sheet dated: 06/02/2020 - version 2



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

1.1. Product identifier

Mixture identification:

Trade name: PLASTIMUL PRIMER SB

Trade code: 2779318

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

Recommended use: Primer

Uses advised against: Data not available

1.3. Details of the supplier of the safety data sheet

Company: MAPEI S.p.A. - Via Cafiero, 22 - 20158 Milano

Tel: +39-02-376731

Fax: +39-02-37673.214

Responsable: sicurezza@mapei.it

1.4. Emergency telephone number

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

MAPEI S.p.A. - Tel. +(39)02376731 - (office hours)

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Flam. Liq. 2	Highly flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Repr. 2	Suspected of damaging the unborn child.
STOT SE 3	May cause drowsiness or dizziness.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure .
Asp. Tox. 1	May be fatal if swallowed and enters airways.
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



Danger

Hazard statements:

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure .
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:

P202	Do not handle until all safety precautions have been read and understood.
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.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER.
P331	Do NOT induce vomiting.
P370+P378	In case of fire, use a dry powder fire extinguisher to extinguish.
P391	Collect spillage.
P403+P235	Store in a well-ventilated place. Keep cool.

Contains:

toluene

heptane; n-heptane

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: PLASTIMUL PRIMER SB

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

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥50 - <75 %	toluene	CAS:108-88-3 EC:203-625-9 Index:601-021-00-3	Flam. Liq. 2, H225; Repr. 2, H361d; Asp. Tox. 1, H304; STOT RE 2, H373; Skin Irrit. 2, H315; STOT SE 3, H336	01-2119471310-51-XXXX
≥10 - <20 %	heptane; n-heptane	CAS:142-82-5 EC:205-563-8 Index:601-008-00-2	Flam. Liq. 2, H225; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	01-2119475515-33-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)

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a dry powder 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.

Exercise the greatest care when handling or opening the container.

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
toluene	SUVA	NNN		190	50	760	200		
	National	SWEDEN		192	50	384	100		SWEDEN, Short term value, 15 minutes average

						value
National	FINLAND	81	25	380	100	FINLAND, hud, buller
National	NORWAY	94	25			NORWAY, H
NDS	NNN	100				
NDSCh	NNN	200				
National	NORWAY	94	25	188	50	
EU	NNN	192	50	384	100	Skin
ACGIH	NNN		20			A4, BEI - Visual impair, female repro, pregnancy loss
DFG	GERMANY	C		760	200	
ACGIH			20			A4 - Not Classifiable as a Human Carcinogen; female reproductive damage; pregnancy loss;visual impairment
National	SWEDEN	192	50			
EU		192	50	384	100	Indicative Possibility of significant uptake through the skin
National	FRANCE	76,8	20	384	100	
National	SPAIN	192	50	384	100	
National	GREECE	192	50	384	100	
National	DENMARK	94	25			
National	FINLAND	81	25	380	100	
National	GERMANY	190	50			
National	PORTUGAL	192	50	384	100	
National	NORWAY	94	25	141	37,5	
National	BELGIUM	77	20	384	100	
NDS	POLAND	100				
NDSCh	POLAND			200		
CHE	SWITZERLAND			760	200	
NDS	NETHERLANDS	150		384		
National	CZECHIA	200				
National	HUNGARY	190		380		
Malaysian OEL	MALAYSIA	188	50			Skin notation
National	ESTONIA	192	50	384	100	
National	LATVIA	50	14	150	40	
National	CZECHIA	C		500		
National	SLOVAKIA	C		384		
National	SLOVAKIA	192	50			
National	SLOVENIA	192	50	384	100	
National	UNITED KINGDOM OF GREAT BRITAIN AND	191	50	384	100	

heptane; n-heptane	NORTHERN IRELAND						
	National	BULGARIA	192,0	50	384,0	100	
	National	ROMANIA	192	50	384	100	
	TUR	TURKEY	192	50	384	100	
	National	LITHUANIA	192	50	384	100	
	National	CROATIA	192	50	384	100	
	NDS	NNN	1200				
	National	SWEDEN	800	200	1200	300	SWEDEN, Short-term value, 15 minutes average value
	National	NORWAY	800	200			
	NDSch	NNN	2000				
	National	NORWAY	820	200	1640	400	
	EU	NNN	2085	500			
	ACGIH	NNN		400		500	CNS impair, URT irr
	DFG	GERMANY	C		2100	500	
	ACGIH			400		500	CNS impairment (listed under Heptane, all isomers); upper respiratory tract irritation (listed under Heptane, all isomers)
	National	SWEDEN	800	200			
	National	FRANCE	1668	400	2085	500	
	National	SPAIN	2085	500			
	National	GREECE	2000	500	2000	500	
	National	DENMARK	820	200			
	National	FINLAND	1200	300	2100	500	
	National	GERMANY	2100	500			
	National	PORTUGAL	2085	500		500	
	National	NORWAY	800	200	1000	250	
	National	BELGIUM	1664	400	2085	500	
	NDS	POLAND	1200				
	NDSch	POLAND			2000		
	CHE	SWITZERLAND			1600	400	
	NDS	NETHERLANDS	1200		1600		
	National	CZECHIA	1000				
	National	HUNGARY	2000				
	Malaysian OEL	MALAYSIA	1640	400			
	National	ESTONIA	2085	500			
	National	LATVIA	350	85	2085	500	
	National	CZECHIA	C		2000		
	National	SLOVAKIA	2085	500			
	National	SLOVENIA	2085	500			

National UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	2085	500	6255	1500	
National BULGARIA	1600				
National ROMANIA	2085	500			
TUR TURKEY	2085	500			
National LITHUANIA	2085	500	3128	750	
National CROATIA	2085	500			
EU	2085	500			Indicative

Biological Exposure Index

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
108-88-3	toluene	0,02	mg/L	Blood	Toluene	Before last turn of the working week
		0,03	mg/L	Urine	Toluene	End of turn
		0,3	MGGCREAT	Urine	O-Cresol	End of turn

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC LIMIT	Exposure Route	Exposure Frequency	Remark
toluene	108-88-3	16,39 mg/kg	Freshwater sediments		PNEC
		2,31 mg/kg	Soil		PNEC
		16,39 mg/kg	Marine water sediments		PNEC
		0,68 mg/l	Fresh Water		PNEC
		0,68 mg/l	Marine water		PNEC
		0,68 mg/l	Intermittent release		PNEC
		6,58 mg/l	Microorganisms in sewage treatments		

Derived No Effect Level. (DNEL)

Component	CAS-No.	Worker Industrial	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
toluene	108-88-3	384 mg/m3		226 mg/kg	Human Dermal	Long Term, systemic effects	
		192 mg/m3		56,5 mg/m3	Human Inhalation	Long Term, systemic effects	
				8,13 mg/kg	Human Oral	Long Term, systemic effects	
				226 mg/kg	Human Dermal	Long Term, systemic effects	

8.2. Exposure controls

Eye protection:

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

Protection for skin:

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

Protection for hands:

Suitable materials for safety gloves; EN 374:

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

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

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

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

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

Respiratory protection:

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

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 black

Odour: N.A.

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: $200\text{ }^{\circ}\text{C}$ ($392\text{ }^{\circ}\text{F}$)

Initial boiling point and boiling range: $35\text{ }^{\circ}\text{C}$ ($95\text{ }^{\circ}\text{F}$)

Flash point: $21\text{ }^{\circ}\text{C}$ ($70\text{ }^{\circ}\text{F}$)

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: N.A.

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

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

Decomposition temperature: N.A.

Viscosity: N.A.

Kinematic viscosity: $K_v \leq 14$

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

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:

toluene	a) acute toxicity	LC50 Inhalation Mouse = 5320 ppm LD50 Oral Rat = 5580 mg/kg LD50 Skin Rabbit = 12124 mg/kg LC50 Inhalation Rat 28,1 mg/l 4h LD50 Skin Rabbit = 12000 mg/kg LC50 Inhalation Rat = 12,5 mg/l 4h LD50 Oral Rat = 2600 mg/kg
heptane; n-heptane	a) acute toxicity	LD50 Skin Rabbit = 3000 mg/kg LC50 Inhalation Rat = 103 g/m3 4h LD50 Oral Mouse = 5000 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
- k) 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
toluene	CAS: 108-88-3 - EINECS: 203- 625-9 - INDEX: 601-021-00-3	a) Aquatic acute toxicity : LC50 Daphnia = 3,78 mg/L 48 a) Aquatic acute toxicity : EC50 Fish = 57,68 mg/L 96 a) Aquatic acute toxicity : EC50 Algae = 134 mg/L 3 a) Aquatic acute toxicity : LC50 Fish = 5,5 mg/L 96 a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 15,22 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 12,6 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 5,89 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 14,1 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 5,8 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus 11 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Oryzias latipes = 54 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 28,2 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata 50,87 mg/L 96h EPA a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 5,46 mg/L 48h EPA

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 11,5 mg/L 48h IUCLID

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata > 433 mg/L 96h IUCLID

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 12,5 mg/L 72h EPA

heptane; n-heptane

CAS: 142-82-5 - a) Aquatic acute toxicity : LC50 Fish = 375 mg/L 96
EINECS: 205-
563-8 - INDEX:
601-008-00-2

a) Aquatic acute toxicity : EC50 Daphnia = mg/L 48

a) Aquatic acute toxicity : LC50 Algae = mg/L 72

a) Aquatic acute toxicity : LC50 Fish Cichlid fish = 375 mg/L 96h

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 or PAINT RELATED MATERIAL

IATA-Technical name: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning and reducing compound)

IMDG-Technical name: PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Marine pollutant: Yes
Environmental Pollutant: Yes

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 3
ADR-Hazard identification number: 33
ADR-Special Provisions: 163 367 640C 650
ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA):

IATA-Passenger Aircraft: 353
IATA-Cargo Aircraft: 364
IATA-Label: 3
IATA-Subsidiary hazards: -
IATA-Erg: 3L
IATA-Special Provisions: A3 A72 A192

Sea (IMDG):

IMDG-Stowage Code: Category B
IMDG-Stowage Note: -
IMDG-Subsidiary hazards: -
IMDG-Special Provisions: 163 367
IMDG-EMS: F-E, S-E

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) : 450,0 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 P5c	5000	50000
Products belongs to category E2	200	500

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: 48

SVHC Substances:

No Data Available

MAL-kode: 5-3 (1993)

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure .
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.7/2	Repr. 2	Reproductive toxicity, 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
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
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]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
2.6/2	On basis of test data
3.2/2	Calculation method
3.7/2	Calculation method
3.8/3	Calculation method
3.9/2	Calculation method
3.10/1	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:

- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 5. FIRE-FIGHTING MEASURES
- 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