

## Safety Data Sheet

### MAPEFLEX PU 40 BIANCO

Safety Data Sheet dated: 14/03/2023 - version 3

Date of first edition: 31/10/2019



## Section 1: Identification

### GHS Product identifier

Mixture identification:

Trade name: MAPEFLEX PU 40 BIANCO

Trade code: 9019521

### Recommended use of the chemical and restrictions on use

Recommended use: Polyurethane-based adhesive

Uses advised against: no data available

### Supplier's details

Company: MAPEI AUSTRALIA Pty Ltd

180 Viking Drive Wacol QLD 4076 Australia

T. +61 7 32765000 (Mon-Fri 8am to 4.30pm)

F. +61 7 32765076

Responsible: sales@mapei.com.au

### Emergency phone number

Australian Poisons Information Centre 24 Hour Service 13 11 26

Police or Fire Brigade 000

## Section 2: Hazard(s) identification



### Classification of the Hazardous chemical

Respiratory Sensitisation, Category 1

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Adverse physicochemical, human health and environmental effects:

No other hazards

### GHS label elements, including precautionary statements

#### Pictograms and Signal Words



Danger

#### Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

#### Precautionary statements

P261 Avoid breathing mist/vapours/spray.

P284 [In case of inadequate ventilation] wear respiratory protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

P501 Dispose of contents/container in accordance with applicable regulations.

#### Other hazards which do not result in a classification

Other Hazards: No other hazards

## Section 3: Composition and information on ingredients

### Substances

no data available

### Mixtures

Mixture identification: MAPEFLEX PU 40 BIANCO

### Hazardous components within the meaning of the "Australian Work Health and Safety (WHS)" regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥25 - <50 %	Calcium carbonate	CAS:471-34-1 EC:207-439-9		Exempted
≥1 - <2.5 %	Benzaldehyde, reaction products with polypropylene glycol diamine	CAS:524730-13-0	Skin Irrit. 2, H315	
≥0.49 - <1 %	4-isocyanatesulphonyltoluene; tosyl isocyanate	CAS:4083-64-1 EC:223-810-8 Index:615-012-00-7	Eye Irrit. 2A, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334  Specific Concentration Limits: C ≥ 5%: Skin Irrit. 2 H315 C ≥ 5%: Eye Irrit. 2A H319 C ≥ 5%: STOT SE 3 H335	01-2119980050-47-XXXX
≥0.1 - <0.25 %	diphenylmethane-4,4'-diisocyanate	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9	Acute Tox. 4, H332 Eye Irrit. 2A, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT RE 2, H373 Carc. 2, H351  Specific Concentration Limits: C ≥ 5%: Skin Irrit. 2 H315 C ≥ 5%: Eye Irrit. 2A H319 C ≥ 5%: STOT SE 3 H335 C ≥ 0,1%: Resp. Sens. 1 H334	01-2119457014-47-XXXX
≥0.1 - <0.25 %	diphenylmethanediisocyanate isomers and homologues	CAS:9016-87-9 EC:618-498-9 Index:615-005-00-9	Acute Tox. 4, H332 Eye Irrit. 2A, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT RE 2, H373 Carc. 2, H351  Specific Concentration Limits: C ≥ 5%: Skin Irrit. 2 H315 C ≥ 5%: Eye Irrit. 2A H319 C ≥ 5%: STOT SE 3 H335 C ≥ 0,1%: Resp. Sens. 1 H334	

## Section 4: First-aid measures

### Description of necessary 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.

In case of eyes contact:

Wash immediately with water.

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.

### Symptoms caused by exposure

no data available

### Medical attention and special treatment

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

## Section 5: Firefighting measures

### Suitable extinguishing media

None in particular.

Water.

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

Extinguishing media which must not be used for safety reasons:

None in particular.

### Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.  
Hazardous combustion products: no data available  
Explosive properties: no data available  
Oxidizing properties: no data available

### Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

### HazChem Code/Emergency Action code

N.A.

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## Section 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.  
Remove persons to safety.

### 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.

### Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand  
Wash with plenty of water.  
Retain contaminated washing water and dispose it.

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## Section 7: Handling and storage

### 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.

### 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.

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## Section 8: Exposure controls and personal protection

### Control parameters – exposure standards, biological monitoring

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Calcium carbonate CAS: 471-34-1	AUS	AUSTRALIA	Long Term: 10 mg/m <sup>3</sup>
	National	FRANCE	Long Term: 10 mg/m <sup>3</sup>
	National	PORTUGAL	Long Term: 10 mg/m <sup>3</sup>
	National	LATVIA	Long Term: 6 mg/m <sup>3</sup>
diphenylmethane-4,4'- diisocyanate CAS: 101-68-8	National	NORWAY	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm; Short Term: 0,01 ppm A 4
	National	SWEDEN	Ceiling - Long Term: 0,03 mg/m <sup>3</sup> - 0,002 ppm; Short Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm SWEDEN, Ceiling limit value
	ACGIH		Long Term: 0,005 ppm Resp sens
	National	POLAND	Long Term: 0,03 mg/m <sup>3</sup> ; Short Term: 0,09 mg/m <sup>3</sup>
	National	AUSTRIA	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm; Short Term: 0,1 mg/m <sup>3</sup> - 0,01 ppm
	ACGIH		Long Term: 0,005 ppm

respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))

AUS	AUSTRALIA	Long Term: 0,02 mg/m <sup>3</sup> ; Short Term: 0,07 mg/m <sup>3</sup>
OSHA		Ceiling - Short Term: 0,2 mg/m <sup>3</sup> - 0,02 ppm
National	SWEDEN	Long Term: 0,03 mg/m <sup>3</sup> - 0,002 ppm
National	FRANCE	Long Term: 0,1 mg/m <sup>3</sup> - 0,01 ppm; Short Term: 0,2 mg/m <sup>3</sup> - 0,02 ppm
National	SPAIN	Long Term: 0,052 mg/m <sup>3</sup> - 0,005 ppm
National	DENMARK	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm
National	GERMANY	Long Term: 0,05 mg/m <sup>3</sup>
National	PORTUGAL	Long Term: 0,005 ppm
National	BELGIUM	Long Term: 0,052 mg/m <sup>3</sup> - 0,005 ppm
National	CZECH REPUBLIC	Long Term: 0,05 mg/m <sup>3</sup>
National	HUNGARY	Long Term: 0,05 mg/m <sup>3</sup> ; Short Term: 0,05 mg/m <sup>3</sup>
National	ESTONIA	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm; Short Term: 0,1 mg/m <sup>3</sup> - 0,01 ppm
National	CZECH REPUBLIC	Ceiling - Short Term: 0,1 mg/m <sup>3</sup>
National	SLOVAKIA	Long Term: 0,002 mg/m <sup>3</sup>
National	SLOVAKIA	Long Term: 0,03 mg/m <sup>3</sup>
National	SLOVENIA	Long Term: 0,05 mg/m <sup>3</sup> ; Short Term: 0,05 mg/m <sup>3</sup>
National	ROMANIA	Short Term: 0,15 mg/m <sup>3</sup>
National	LITHUANIA	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm
National	LITHUANIA	Ceiling - Short Term: 0,1 mg/m <sup>3</sup> - 0,01 ppm
ACGIH		Long Term: 0,005 ppm respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
OSHA		Ceiling - Short Term: 0,2 mg/m <sup>3</sup> - 0,02 ppm
National	NORWAY	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm; Short Term: 0,01 ppm
National	SLOVENIA	Long Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm; Short Term: 0,05 mg/m <sup>3</sup> - 0,005 ppm
diphenylmethanediisocyanate isomers and homologues CAS: 9016-87-9	ACGIH	Long Term: 0,05 ppm
AUS	AUSTRALIA	Long Term: 0,02 mg/m <sup>3</sup> ; Short Term: 0,07 mg/m <sup>3</sup>
National	GERMANY	Long Term: 0,05 mg/m <sup>3</sup>
National	SLOVENIA	Long Term: 0,05 mg/m <sup>3</sup> ; Short Term: 0,05 mg/m <sup>3</sup>

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

Calcium carbonate CAS: 471-34-1 Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l

diphenylmethane-4,4'-diisocyanate CAS: 101-68-8 Exposure Route: Fresh Water; PNEC Limit: 1 mg/l

Exposure Route: Marine water; PNEC Limit: 0,1 mg/l

Exposure Route: Soil; PNEC Limit: 1 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1 mg/l

Exposure Route: Intermittent release; PNEC Limit: 10 mg/l

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

Calcium carbonate CAS: 471-34-1 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Industry: 6,36 mg/m<sup>3</sup>; Consumer: 1,06 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 6,1 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 6,1 mg/kg

diphenylmethane-4,4'-diisocyanate CAS: 101-68-8 Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Industry: 50 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects

Worker Industry: 0,1 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Industry: 0,1 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Industry: 0,05 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Industry: 0,05 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Consumer: 25 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Consumer: 0,05 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 20 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Consumer: 0,05 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 0,025 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Consumer: 0,025 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects  
Worker Industry: 28,7 mg/cm<sup>2</sup>; Consumer: 17,2 mg/cm<sup>2</sup>

#### **Appropriate engineering controls**

no data available

#### **Individual protection measures, such as personal protective equipment (PPE)**

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

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; AS/NZS 2161.10:

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

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

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

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

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to AS/NZS 1715-1716 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

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### **Section 9: Physical and chemical properties**

Physical state: Liquid

Appearance: paste

Color: white

Odour: Characteristic

pH: no data available

Melting point / freezing point: no data available

Initial boiling point and boiling range: no data available

Flash point: 100 °C (212 °F)

Evaporation rate: no data available

Flammability (Solid, Gas) no data available

Lower and upper explosion limit/flammability limits: no data available

Vapour pressure: no data available

Vapour density: no data available

Relative density: no data available

Solubility in water: Insoluble

Solubility in oil: partly soluble

Partition coefficient (n-octanol/water): no data available

Auto-ignition temperature: no data available  
Decomposition temperature: no data available  
Kinematic viscosity: no data available  
VOC % (Volatile Organic Compound) : 2,1 (Rule 1168) g/l

**Particle characteristics:**

Particle size: no data available  
Particle size distribution: no data available  
Shape and aspect ratio: no data available  
Specific surface area: no data available

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**Section 10: Stability and reactivity**

**Reactivity**

Stable under normal conditions

**Chemical stability**

no data available

**Possibility of hazardous reactions**

None.

**Conditions to avoid**

Stable under normal conditions.

**Incompatible materials**

None in particular.

**Hazardous decomposition products**

None.

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**Section 11: Toxicological information**

**Information on toxicological effects**

**Toxicological Information of the Preparation**

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	The product is classified: Respiratory Sensitisation, Category 1(H334)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

**Toxicological information on main components of the mixture:**

Calcium carbonate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg LC50 Inhalation Rat > 3 mg/l LD50 Skin Rat > 2000 mg/kg 4h LD50 Oral Rat = 6450 mg/kg
	g) reproductive toxicity	NOAEL Rat = 1000 mg/kg
4-isocyanatesulphonyltoluene; tosyl isocyanate	a) acute toxicity	LC50 Inhalation Rat > 640 ppm 1h

LD50 Oral Rat = 2234 mg/kg

diphenylmethane-4,4'-diisocyanate

a) acute toxicity

LD50 Oral Rat > 2000 mg/kg

LD50 Skin Rabbit > 9400 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

diphenylmethanediisocyanate isomers and homologues

a) acute toxicity LD50 Oral Rat > 10000 mg/kg

LD50 Skin Rabbit > 9400 mg/kg

LC50 Inhalation Dust Rat = 0,31 mg/l 4h

LD50 Skin Rabbit > 9,4 g/kg

LC50 Inhalation Rat = 490 mg/m<sup>3</sup> 4h

LD50 Oral Rat = 49 g/kg

g) reproductive toxicity NOAEL Inhalation Rat = 12 mg/m<sup>3</sup>

## Section 12: Ecological information

### Ecotoxicity

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

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

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

Component	Ident. Numb.	Ecotox Data
Calcium carbonate	CAS: 471-34-1 - EINECS: 207-439-9	c) Bacteria toxicity : NOEC Bacteria = 1000 mg/L 3  d) Terrestrial toxicity : LC50 > 1000 mg/kg d) Terrestrial toxicity : NOEC = 1000 mg/kg - 28 d e) Plant toxicity : NOEC = 1000 mg/kg - 21 d
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
diphenylmethanediisocyanate isomers and homologues	CAS: 9016-87-9 - EINECS: 618-498-9 - 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

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

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**Section 13: Disposal considerations****Disposal methods**

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

no data available

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.

**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.

**UN number**

no data available

**UN proper shipping name**

no data available

**Transport hazard class(es)**

no data available

**Packing group, if applicable**

no data available

**Environmental hazards**

no data available

**Special precautions for user**

ADG-Subsidiary hazards no data available

ADG-S.P.: no data available

**Road and Rail (ADR-RID):**

no data available

ADR-Hazard identification number: NA

**Air (IATA):**

no data available

**Sea (IMDG):**

no data available

**Additional Information**

no data available

**HazChem Code/Emergency Action code**

no data available



## Section 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals.

AICIS: all components are listed

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## Section 16: Any other relevant 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
3.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
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

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  
KAFH: KAFH  
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
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 16. OTHER INFORMATION