

Safety Data Sheet

MAPEGROUT HI-FLOW

Safety Data Sheet dated: 31/05/2023 - version 4

Date of first edition: 16/04/2021



Section 1: Identification

GHS Product identifier

Mixture identification:

Trade name: MAPEGROUT HI-FLOW

Trade code: 901375

Recommended use of the chemical and restrictions on use

Recommended use: Ready prepared cement mortar

Uses advised against: Data not 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

Skin irritation, Category 2

Causes skin irritation.

Serious eye damage, Category 1

Causes serious eye damage.

Skin Sensitisation, Category 1B

May cause an allergic skin reaction.

Specific target organ toxicity – single exposure, Category 3

May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

GHS label elements, including precautionary statements

Pictograms and Signal Words



Danger

Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/clothing and eye/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER if you feel unwell.

P321 Specific treatment (see supplementary instructions on this label)

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with applicable regulations.

Other hazards which do not result in a classification

Other Hazards: No other hazards

Prolonged exposition and/or intensive inhalation of respirable free crystalline silica (average diameter less than 10 micron in accordance with ACGIH) can cause pulmonary fibrosis commonly referred to as silicosis.

This preparation contains cement. Contact between cement and body fluids (e.g. sweat and eye fluids) may cause irritation or burns.

Working with materials that contain crystalline silica can make (or generate) a dangerous dust called respirable crystalline silica (RCS).

Prolonged exposition and/or intensive inhalation of RCS (average diameter less than 10 micron in accordance with ACGIH) can cause pulmonary fibrosis commonly referred to as silicosis.

Care must be exercised during the opening of products containing crystalline silica and mixing of these products during preparation for usage; reduce the formation of airborne dust as much as possible, and avoid spills of product outside the mixing vessel and on working clothes.

Using tools to process materials (such as cutting, grinding, drilling, or polishing) that contain crystalline silica content can be hazardous and may generate RCS. Residual dust on tools, equipment, and working clothes can also present a risk.

It is important to ensure that a workplace is not exposed to respirable crystalline silica (RCS) at a level higher than the exposure standard (S8).

To fully understand your responsibilities in the workplace regarding RCS, please refer to the relevant WHS regulations and Codes of Practice in your jurisdiction.

Section 3: Composition and information on ingredients

Substances

no data available

Mixtures

Mixture identification: MAPEGROUT HI-FLOW

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 %	free crystalline silica (Ø >10 µ)	CAS:14808-60-7 EC:238-878-4		
≥25 - <50 %	portland cement, Cr(VI) < 2 ppm	CAS:65997-15-1 EC:266-043-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Eye Dam. 1, H318; STOT SE 3, H335	
≥1 - <2.5 %	calcium oxide	CAS:1305-78-8 EC:215-138-9	STOT SE 3, H335; Skin Irrit. 2, H315; Eye Dam. 1, H318	01-2119475325-36-XXXX
≥0.25 - <0.49 %	calcium aluminate sulfate	CAS:12005-25-3 EC:818-462-4	Skin Sens. 1, H317	
≥0.05 - <0.1 %	calcium carbonate	CAS:1317-65-3 EC:215-279-6		

Section 4: First-aid measures

Description of necessary first-aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.
- 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:

- In case of inhalation, consult a doctor immediately and show the packaging or label.

Symptoms caused by exposure

Eye irritation
Eye damages

Skin Irritation

Erythema

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 (CO₂).

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: ==

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.

Section 6: Accidental release measures

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.

Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Take up mechanically and dispose of according to local/state/federal regulations

Suitable material for taking up: absorbing material, organic, sand

Scoop into containers and seal for disposal.

Wash with plenty of water.

Retain contaminated washing water and dispose it.

Section 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not use on extensive surface areas in premises where there are occupants.

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.

Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

Section 8: Exposure controls and personal protection

Control parameters – exposure standards, biological monitoring

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
free crystalline silica ($\emptyset > 10 \mu$) CAS: 14808-60-7	ACGIH		Long Term: 0,025 mg/m ³ A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis
	National	AUSTRALIA	Long Term: 0,05 mg/m ³
	National	BELGIUM	Long Term: 0,1 mg/m ³
	National	BULGARIA	Long Term: 0,07 mg/m ³
	National	CROATIA	Long Term: 0,1 mg/m ³
	National	CZECH REPUBLIC	Long Term: 0,1 mg/m ³
	National	DENMARK	Long Term: 0,3 mg/m ³ DENMARK, inhalable aerosol inhalable aerosol
	National	DENMARK	Long Term: 0,1 mg/m ³ DENMARK, respirable aerosol respirable aerosol
	National	DENMARK	Long Term: 0,3 mg/m ³
	National	DENMARK	Long Term: 0,1 mg/m ³
	National	ESTONIA	Long Term: 0,1 mg/m ³
	National	FINLAND	Long Term: 0,05 mg/m ³
	National	FRANCE	Long Term: 0,1 mg/m ³
	National	HUNGARY	Long Term: 0,15 mg/m ³
	National	LITHUANIA	Long Term: 0,1 mg/m ³
	National	NORWAY	Long Term: 0,3 mg/m ³ Totalstøv (total dust); K: Kjemikalier som skal betraktes som kreftfremkallende. (K: Chemicals to be treated as carcinogenic.)
	ACGIH		Long Term: 0,025 mg/m ³ (R), A2 - Pulm fibrosis, lung cancer
	National	PORTUGAL	Long Term: 0,025 mg/m ³
	National	ROMANIA	Long Term: 0,1 mg/m ³
	National	SLOVAKIA	Long Term: 0,1 mg/m ³ ; Short Term: 0,5 mg/m ³
	National	SLOVENIA	Long Term: 0,1 mg/m ³
	National	SPAIN	Long Term: 0,05 mg/m ³
	National	SWEDEN	Long Term: 0,1 mg/m ³
National	SWITZERLAND	Long Term: 0,15 mg/m ³ A	
portland cement, Cr(VI) < 2 ppm CAS: 65997-15-1	AUS		Long Term: 10 mg/m ³ 10 mg/m ³ PEL
	OSHA		Long Term: 15 mg/m ³
	OSHA		Long Term: 5 mg/m ³
	ACGIH		Long Term: 1 mg/m ³ A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma
	ACGIH	AUSTRALIA	Long Term: 1 mg/m ³ A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma
	AUS	AUSTRALIA	Long Term: 10 mg/m ³ 10 mg/m ³ PEL
	National	BELGIUM	Long Term: 1 mg/m ³
	National	CROATIA	Long Term: 10 mg/m ³ ; Short Term: 10 mg/m ³
	National	CROATIA	Long Term: 4 mg/m ³ ; Short Term: 10 mg/m ³
	National	CROATIA	Long Term: 10 mg/m ³
	National	CROATIA	Long Term: 4 mg/m ³
	National	FINLAND	Long Term: 1 mg/m ³ FINLAND, respirabel fraktion

National FINLAND	Long Term: 5 mg/m3
National FINLAND	Long Term: 1 mg/m3 inhalable dust
National HUNGARY	Long Term: 10 mg/m3; Short Term: 30 mg/m3
National LATVIA	Long Term: 6 mg/m3
National PORTUGAL	Long Term: 10 mg/m3
National PORTUGAL	Long Term: 1 mg/m3
National ROMANIA	Long Term: 10 mg/m3
National SPAIN	Long Term: 4 mg/m3 5 mg/m3 TWA (containing <1% of free Silica, respirable dust);10 mg/m3 TWA (containing <1% of free Silica, total dust)
National SPAIN	Long Term: 4 mg/m3
National UNITED KINGDOM	Long Term: 10 mg/m3 inhalable dust
National UNITED KINGDOM	Long Term: 4 mg/m3; Short Term: 10 mg/m3 respirable dust
National UNITED KINGDOM	Long Term: 10 mg/m3; Short Term: 30 mg/m3 5 mg/m3 TWA (containing <1% of free Silica, respirable dust);10 mg/m3 TWA (containing <1% of free Silica, total dust)
National UNITED KINGDOM	Long Term: 4 mg/m3
National UNITED KINGDOM	Long Term: 10 mg/m3; Short Term: 30 mg/m3
National UNITED KINGDOM	Long Term: 10 mg/m3; Short Term: 12 mg/m3
National UNITED KINGDOM	Long Term: 4 mg/m3; Short Term: 30 mg/m3
calcium oxide CAS: 1305-78-8	ACGIH Long Term: 2 mg/m3 URT irr
National SWEDEN	Long Term: 1 mg/m3; Short Term: 2,5 mg/m3 SWEDEN, Short-term value, 15 minutes average value
National FINLAND	Long Term: 2 mg/m3
National NORWAY	Long Term: 2 mg/m3 NORWAY, T
National FINLAND	Long Term: 2 mg/m3
National NORWAY	Long Term: 2 mg/m3; Short Term: 4 mg/m3
OSHA	Long Term: 5 mg/m3
ACGIH	Long Term: 2 mg/m3 upper respiratory tract irritation
AUS AUSTRALIA	Long Term: 2 mg/m3
National SWEDEN	Long Term: 1 mg/m3
National FRANCE	Long Term: 2 mg/m3
National SPAIN	Long Term: 1 mg/m3; Short Term: 4 mg/m3
National GREECE	Long Term: 1 mg/m3; Short Term: 4 mg/m3
National DENMARK	Long Term: 1 mg/m3
National FINLAND	Long Term: 1 mg/m3; Short Term: 4 mg/m3
National GERMANY	Long Term: 1 mg/m3
National PORTUGAL	Long Term: 2 mg/m3
National NORWAY	Long Term: 1 mg/m3; Short Term: 2 mg/m3
National BELGIUM	Long Term: 2 mg/m3
National CZECH REPUBLIC	Long Term: 1 mg/m3
National HUNGARY	Long Term: 1 mg/m3; Short Term: 4 mg/m3
National ESTONIA	Long Term: 1 mg/m3; Short Term: 4 mg/m3

National LATVIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National CZECH REPUBLIC	Ceiling - Short Term: 4 mg/m ³
National SLOVAKIA	Long Term: 5 mg/m ³
National SLOVENIA	Long Term: 5 mg/m ³ ; Short Term: 5 mg/m ³
National UNITED KINGDOM	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National UNITED KINGDOM	Long Term: 1 mg/m ³ ; Short Term: 6 mg/m ³
National UNITED KINGDOM	Long Term: 2 mg/m ³ ; Short Term: 4 mg/m ³
National BULGARIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National ROMANIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National LITHUANIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National CROATIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National DENMARK	Long Term: 2 mg/m ³
National PORTUGAL	Long Term: 2 mg/m ³ ; Short Term: 4 mg/m ³
National BELGIUM	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
National SLOVENIA	Long Term: 1 mg/m ³ ; Short Term: 4 mg/m ³
OSHA	Long Term: 15 mg/m ³
OSHA	Long Term: 5 mg/m ³
National GREECE	Long Term: 10 mg/m ³
National GREECE	Long Term: 5 mg/m ³
National BELGIUM	Long Term: 10 mg/m ³
National CZECH REPUBLIC	Long Term: 10 mg/m ³
National HUNGARY	Long Term: 10 mg/m ³
National ESTONIA	Long Term: 10 mg/m ³
National ESTONIA	Long Term: 5 mg/m ³
National SLOVAKIA	Long Term: 10 mg/m ³
National UNITED KINGDOM	Long Term: 10 mg/m ³ ; Short Term: 30 mg/m ³
National UNITED KINGDOM	Long Term: 10 mg/m ³ ; Short Term: 12 mg/m ³
National UNITED KINGDOM	Long Term: 4 mg/m ³ ; Short Term: 30 mg/m ³
National BULGARIA	Long Term: 10 mg/m ³
National ROMANIA	Long Term: 10 mg/m ³
National CROATIA	Long Term: 4 mg/m ³
National CROATIA	Long Term: 10 mg/m ³
National FRANCE	Long Term: 10 mg/m ³

calcium carbonate
CAS: 1317-65-3

Predicted No Effect Concentration (PNEC) values

calcium oxide
CAS: 1305-78-8

Exposure Route: Fresh Water; PNEC Limit: 0,49 mg/l

Exposure Route: Marine water; PNEC Limit: 0,32 mg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3 mg/l

Exposure Route: Soil; PNEC Limit: 1080 mg/kg

Exposure Route: Soil; PNEC Limit: 816 mg/l

Derived No Effect Level (DNEL) values

calcium oxide
CAS: 1305-78-8

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Industry: 4 mg/m³; Consumer: 4 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Industry: 1 mg/m³; Consumer: 1 mg/m³

Appropriate engineering controls

no data available

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

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; AS/NZS 2161.10:

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 $\geq 480\text{min}$.

Nitrile gloves are suggested (1,3 mm; 480 min). Not recommended gloves: not waterproof gloves

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 respiratory protection where ventilation is insufficient or exposure is prolonged.

Section 9: Physical and chemical properties

Physical state: Solid

Appearance: powder

Color: Grey

Odour: cement like

pH: no data available

pH (water dispersion, 10%): 12.50

Melting point / freezing point: no data available

Initial boiling point and boiling range: no data available

Flash point: no data available

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: partly soluble

Solubility in oil: insoluble

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

Auto-ignition temperature: no data available

Decomposition temperature: no data available

Kinematic viscosity: no data available

Volatile Organic compounds - VOCs = No data available

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

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.

Section 11: Toxicological information

Information on toxicological effects

Contains cement. Cement gives a strong alkaline reaction with water and body fluids (e.g. sweat and eye fluids), therefore the contact with skin and eyes should be carefully avoided.

Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin irritation, Category 2(H315)
c) serious eye damage/irritation	The product is classified: Serious eye damage, Category 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sensitisation, Category 1B(H317)
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	The product is classified: Specific target organ toxicity — single exposure, Category 3(H335)
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:

free crystalline silica (Ø >10 µ)	a) acute toxicity	LD50 Oral > 2000 mg/kg LD50 Skin > 2000 mg/kg
calcium oxide	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg LD50 Skin Rat > 2500 mg/kg
calcium carbonate	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg

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 oxide	CAS: 1305-78-8 - EINECS: 215-138-9	a) Aquatic acute toxicity : LC50 Fish = 457 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 49,1 mg/L 48
		b) Aquatic chronic toxicity : NOEC Daphnia = 32 mg/L - 14 d
		a) Aquatic acute toxicity : LC50 Fish = 50,6 mg/L 96
		a) Aquatic acute toxicity : LC50 Daphnia = 158 mg/L 96
		a) Aquatic acute toxicity : EC50 Algae = 184,57 mg/L 72
		b) Aquatic chronic toxicity : NOEC Algae = 48 mg/L 72
a) Aquatic acute toxicity : LC50 Fish Cyprinus carpio = 1070 mg/L 96h IUCLID		

calcium carbonate

CAS: 1317-65-3 a) Aquatic acute toxicity : LC50 Fish > 10000 mg/L 96
- EINECS: 215-279-6

a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 48

a) Aquatic acute toxicity : EC50 Algae > 200 mg/L 72

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

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.

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

Section 16: Any other relevant information

Code	Description
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Code	Hazard class and hazard category	Description
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3

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:

- 9. PHYSICAL AND CHEMICAL PROPERTIES