

Safety Data Sheet

NIVORAPID

Safety Data Sheet dated: 01/06/2022 - version 1



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

1.1. Product identifier

Mixture identification:

Trade name: NIVORAPID

Trade code: 901201

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

Recommended use: Cement based levelling mortar

Uses advised against: Not available

1.3. Details of the supplier of the safety data sheet

Company: MAPEI U.K. Ltd - Mapei House Steel Park Road

Halesowen - West Midlands B62 8HD

phone: +44(0)121 508 6970 - fax: +44(0)121 5086 960 - www.mapei.co.uk (office hour 8:30-17:30)

Responsible: sicurezza@mapei.it

1.4. Emergency telephone number

call NHS 111 or a doctor/OHES Environmental Ltd +44(0)333 333 9962

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Eye Dam. 1 Causes serious eye damage.

Skin Sens. 1B May cause an allergic skin reaction.

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:

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

Precautionary statements:

P261 Avoid breathing dust.

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

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

P310 Immediately call a POISON CENTER.

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

P362+P364 Take off contaminated clothing and wash it before reuse.

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

Contains:

portland cement, Cr(VI) < 2 ppm

Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances

present in concentration $\geq 0.1\%$.

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.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not Relevant

3.2. Mixtures

Mixture identification: NIVORAPID

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

Concentration (%) w/w	Name	Ident. Numb.	Classification	Registration Number
$\geq 2.5 - < 5\%$	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	
<0.0015 %	free crystalline silica ($\varnothing < 10 \mu$)	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	
< 0,00015 %	formaldehyde	CAS:50-00-0 EC:200-001-8 Index:605-001-00-5	Acute Tox. 3, H311 Acute Tox. 3, H331 Acute Tox. 3, H301 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350	01-2119488953-20-XXXX
Specific Concentration Limits: 0,2% \leq C < 100%: Skin Sens. 1 H317 5% \leq C < 25%: Skin Irrit. 2 H315 5% \leq C < 25%: Eye Irrit. 2 H319 5% \leq C < 100%: STOT SE 3 H335 25% \leq C < 100%: Skin Corr. 1B H314				

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.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose of safely.

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

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:

Water.

Carbon dioxide (CO₂).

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 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.

6.3. Methods and material for containment and cleaning up

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

Scoop into containers and seal for disposal.

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.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

List of components with OEL value

	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Behaviour	Note
portland cement, Cr(VI) < 2 ppm CAS: 65997-15-1	National	FINLAND		1					FINLAND, respirabel fraktion
	NDS	POLAND		6					frakcja wdychalna
	NDS	POLAND		2					frakcja respirabilna
	SUVA	SWITZERLAND		5					A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma
	DFG	GERMANY		15					

free crystalline silica (Ø <10 µ) CAS: 14808-60-7	National	SPAIN	4,000		5 mg/m3 TWA (containing <1% of free Silica, respirable dust);10 mg/m3 TWA (containing <1% of free Silica, total dust)
	National	PORTUGAL	10		
	National	BELGIUM	10		
	National	HUNGARY	10		
	Malaysi a OEL	MALAYSIA	10,000		
	National	UNITED KINGDOM	10,000		inhalable dust
	National	UNITED KINGDOM	4,000		respirable dust
	National	CROATIA	10,000	10,000	
	DFG	GERMANY	15		
	ACGIH	AUSTRALIA	1,000		A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma
	Malaysi a OEL	MALAYSIA	10		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	10	30,000	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	4,000		
	National	ROMANIA	10		
	ACGIH		1		A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma
	National	SPAIN	4		
	National	FINLAND	5		
	NDS	POLAND	6		
	National	LATVIA	6		
	National	SWEDEN	0,100		SWEDEN, respirable aerosol
	National	NORWAY	0,100		K: Chemicals to be treated as carcinogenic.
	NDS	POLAND	2,000		frakcja wdychalna
	NDS	POLAND	0,300		frakcja respirabilna
	National	DENMARK	0,3	0,600	DENMARK, inhalable aerosol inhalable aerosol
	National	DENMARK	0,100	0,200	DENMARK, respirable aerosol respirable aerosol
	ACGIH		0,025		(R), A2 - Pulm fibrosis, lung cancer
	EU		0,025		A2 (R) - Pulm fibrosis, lung cancer
	National	AUSTRIA	0,150		A*

ACGIH	0,025				A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis
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National SWEDEN	0,1				
National FRANCE	0,1				
National SPAIN	0,05				
National DENMARK	0,3				
National FINLAND	0,05				
National PORTUGAL	0,025				
National NORWAY	0,3		0,9		
National BELGIUM	0,1				
NDS POLAND	0,1				
NDS NETHERLANDS	0,075				
National CZECH REPUBLIC	0,1				
National HUNGARY	0,15				
Malaysi a OEL MALAYSIA	0,1				0.1 mg/m3 TWA (respirable dust)
National ESTONIA	0,1				
National SLOVAKIA	0,1		0,5		
National SLOVENIA	0,1				
National BULGARIA	0,07				
National ROMANIA	0,1				
National LITHUANIA	0,1				
National CROATIA	0,1				
National ITALY	0,100				

formaldehyde CAS: 50-00-0	ACGIH	C			0,3		DSEN, RSEN, A2 - URT and eye irr
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DFG GERMANY	C		0,74	0,6		
ACGIH		0,1		0,3		A1 - Confirmed Human Carcinogen;eye and upper respiratory tract irritation;upper respiratory tract cancer;dermal sensitizer; respiratory sensitizer

National SWEDEN		0,37	0,3			
National FRANCE			0,5		1	
National SPAIN		0,37	0,3	0,74	0,6	
National GREECE		2,5	2	2,5	2	
National DENMARK	C			0,4	0,3	
National FINLAND		0,37	0,3			
National FINLAND	C			1,2	1	
National GERMANY		0,37	0,3			
National NORWAY		0,6	0,5			
National NORWAY	C			1,2	1	
NDS POLAND		0,37				
NDSch POLAND				0,74		
CHE SWITZERLAND				0,74	0,6	
NDS NETHERLANDS		0,15		0,5		
National CZECH REPUBLIC		0,5				
National HUNGARY		0,6		0,6		
Malaysi a OEL MALAYSIA	C			0,37	0,3	
National PORTUGAL	C				0,3	

National ESTONIA		0,6	0,5	1,2	1
National LATVIA		0,5			
National CZECH REPUBLIC	C			1	
National SLOVAKIA	C			0,74	
National SLOVAKIA		0,37	0,3		
National SLOVENIA		0,62	0,5	0,62	0,5
National UNITED KINGDOM		2,5	2	2,5	2
National BULGARIA		1,0		2,0	
National ROMANIA		1,2	1	3	2
National LITHUANIA		0,6	0,5		
National LITHUANIA	C			1,2	1
National CROATIA		2,5	2	2,5	2
EU		0,37	0,3		

Binding

Predicted No Effect Concentration (PNEC) values

	PNEC Limit	Exposure Route	Exposure Frequency	Remark
formaldehyde CAS: 50-00-0	0,47 mg/l	Fresh Water		
	0,47 mg/l	Marine water		
	4,7 mg/l	Intermittent release		
	0,19 mg/l	Microorganisms in sewage treatments		
	2,44 mg/kg	Freshwater sediments		
	2,44 mg/kg	Marine water sediments		
	0,21 mg/kg	Soil		

Derived No Effect Level. (DNEL)

	Worker Industrial	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
formaldehyde CAS: 50-00-0	1 mg/m3			Human Inhalation		Short Term, local effects
	240 mg/kg		102 mg/kg	Human Dermal		Long Term, systemic effects
	9 mg/m3		3,2 mg/m3	Human Inhalation		Long Term, systemic effects
	0,037 mg/cm2		0,012 mg/cm2	Human Dermal		Long Term, local effects
	0,5 mg/m3		0,1 mg/m3	Human Inhalation		Long Term, local effects
			4,1 mg/kg	Human Oral		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 ISO 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 $\geq 480\text{min}$.

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

Respiratory protection:

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

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to appropriate EN standards, like EN 136, 140, 143, 149, 14387 for information on selection and use of appropriate respiratory protection equipment.

A dust mask (P2) should be worn if above exposure limits (EN 149)

Hygienic and Technical measures

Not available

Appropriate engineering controls:

Not available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid

Appearance: powder

Color: Grey

Odour: cement like

Melting point / freezing point: Not available

Initial boiling point and boiling range: Not available

Flammability: N.A.

Upper/lower flammability or explosive limits: Not available

Flash point: Not available

Auto-ignition temperature: Not available

Decomposition temperature: Not available

pH: Not available

pH (water dispersion, 10%): 12.00

Viscosity: Not available

Kinematic viscosity: Not available

Solubility in water: partly soluble

Solubility in oil: insoluble

Partition coefficient (n-octanol/water): Not available

Vapour pressure: Not available

Relative density: 1.50 g/cm³

Vapour density: Not available

Particle characteristics:

Particle size: Not available

9.2. Other information

Miscibility: Not available

Conductivity: Not available

Explosive properties: ==

No other relevant 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

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 mixture:

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	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 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	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:

free crystalline silica (Ø <10 µ)	a) acute toxicity	LD50 Oral Rat = 500 mg/kg
formaldehyde	a) acute toxicity	LD50 Oral Rat = 700 mg/kg LC50 Inhalation Rat = 0,578 mg/l LD50 Skin Rabbit = 270 mg/kg LD50 Skin Rabbit = 270 mg/kg LC50 Inhalation Rat = 0,578 mg/l 4h LD50 Oral Rat = 100 mg/kg

11.2 Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

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

Not classified for environmental hazards
Based on available data, the classification criteria are not met

List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
formaldehyde	CAS: 50-00-0 - EINECS: 200- 001-8 - INDEX: 605-001-00-5	a) Aquatic acute toxicity : LC50 Fish = 41 mg/L 96 a) Aquatic acute toxicity : EC50 Daphnia = 42 mg/L 24 a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 22,6 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 1510 µg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 41 mg/L 96h IUCLID a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 0,032 mL/L 96h EPA

- a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 100 mg/L 96h EPA
a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 23,2 mg/L 96h EPA
a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 2 mg/L 48h IUCLID
a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 11,3 mg/L 48h EPA

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 or endocrine disruptor substances present in concentration $\geq 0.1\%$.

12.6 Endocrine disrupting properties

No endocrine disruptor substances present in concentration $\geq 0.1\%$

12.7 Other adverse effects

Not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

A waste code (EWC) according to European List of Waste (LoW) cannot be specified, due to dependence on the usage. Contact and send to an authorized waste disposal service.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Hazardous waste: Yes

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

Not Applicable

14.2. UN proper shipping name

Not Applicable

14.3. Transport hazard class(es)

Not Applicable

14.4. Packing group

Not Applicable

14.5. Environmental hazards

Not Applicable

14.6. Special precautions for user

Not Applicable

Road and Rail (ADR-RID) :

Not Applicable

Air (IATA) :

Not Applicable

Sea (IMDG) :

Not Applicable

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

The product contains Cr (VI) under the limits established by annex. XVII pt.47. Respect the duration according to the information described on the packaging.

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) n. 2020/878

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)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Provisions related to directive EU 2012/18 (Seveso III):

None

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: None.

Restrictions related to the substances contained: 28, 72, 75

SVHC Substances:

SVHC substances not present in a concentration $\geq 0.1\%$ (w/w)

German Water Hazard Class (WGK)

Class 1: slightly hazardous for water.

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

Code	Hazard class and hazard category	Description
3.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
3.1/3/Inhal	Acute Tox. 3	Acute toxicity (inhalation), Category 3
3.1/3/Oral	Acute Tox. 3	Acute toxicity (oral), Category 3
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.5/2	Muta. 2	Germ cell mutagenicity, Category 2
3.6/1B	Carc. 1B	Carcinogenicity, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008 Classification procedure

3.3/1	Calculation method
3.4.2/1B	Calculation method

If appropriate, specific provisions in relation to possible training for workers are mentioned in section 2. Any training related to safety in the workplace must in any case refer to a risk assessment that must be carried out by a company safety officer taking into account the specific operating and environmental conditions in which the products are used.

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.