





### Safety Data Sheet dated 16/5/2023, version 13

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

1.1. Product identifier

Mixture identification:

Trade name: KIRON Trade code: 277

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

Recommended use:

Coating material

1.3. Details of the supplier of the safety data sheet

Company:

SAN MARCO GROUP S.P.A.

Via Alta 10

30020 MARCON (VE) - Italy -

Tel.+39 041 4569322

Fax. +39 041 5950153

Competent person responsible for the safety data sheet:

sicurezza.prodotti@sanmarcogroup.it

1.4. Emergency telephone number

Technical information: SAN MARCO GROUP SPA +39 041 4569322 (Monday - Friday 9.00-12.30; 13.30-17.00)

#### **SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

- Warning, Flam. Liq. 3, Flammable liquid and vapour.
   Warning, STOT SE 3, May cause drowsiness or dizziness. Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:





Warning

Hazard statements:

H226 Flammable liquid and vapour.

H336 May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

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

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

P405 Store locked up.

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

**Special Provisions:** 

277/13



EUH066 Repeated exposure may cause skin dryness or cracking. EUH208 Contains Neodecanoic acid, cobalt salt. May produce an allergic reaction.

Contains

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics 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 >= 0.1%

Other Hazards:

No other hazards

### **SECTION 3: Composition/information on ingredients**

3.1. Substances

N.A.

3.2. Mixtures

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

Qty	Name	Ident. Number		Classification
>= 20% - < 25%	Hydrocarbons, C9- C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	EC: REACH No.:	919-857-5 01- 2119463258 -33-XXXX	<ul> <li></li></ul>
>= 1% - < 3%	trizinc bis(orthophosphate)	Index number: CAS: EC: REACH No.:	7779-90-0 231-944-3	<ul> <li>♦ 4.1/A1 Aquatic Acute 1 H400</li> <li>M=1.</li> <li>♦ 4.1/C1 Aquatic Chronic 1 H410</li> <li>M=1.</li> </ul>
>= 1% - < 3%	aluminium powder (stabilised)	Index number: CAS: EC: REACH No.:	7429-90-5 231-072-3	<ul><li></li></ul>
>= 1% - < 3%	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	EC: REACH No.:	918-481-9 01- 2119457273 -39-XXXX	
>= 0.25% - < 0.5%	reaction mass of ethylbenzene and xylene	EC: REACH No.:	905-588-0 01- 2119539452 -40-XXXX	<ul> <li>2.6/3 Flam. Liq. 3 H226</li> <li>3.1/4/Dermal Acute Tox. 4 H312</li> <li>3.1/4/Inhal Acute Tox. 4 H332</li> <li>3.10/1 Asp. Tox. 1 H304</li> <li>3.9/2 STOT RE 2 H373</li> <li>3.3/2 Eye Irrit. 2 H319</li> <li>3.2/2 Skin Irrit. 2 H315</li> <li>3.8/3 STOT SE 3 H335</li> <li>Acute Toxicity Estimate:</li> <li>ATE - Dermal 1100 mg/kg bw</li> <li>ATE - Inhalation (Vapours) 11 mg/l</li> </ul>



	Neodecanoic acid, cobalt salt	CAS: EC: REACH No.:	27253-31-2 248-373-0 01- 2119970733 -31-XXXX	<ul> <li></li></ul>
>= 0. 0015% - < 0.005%	xylene (mixture of isomers)	Index number: CAS: EC: REACH No.:	1330-20-7 215-535-7	<ul> <li>\$2.6/3 Flam. Liq. 3 H226</li> <li>\$3.10/1 Asp. Tox. 1 H304</li> <li>\$3.2/2 Skin Irrit. 2 H315</li> <li>\$3.9/2 STOT RE 2 H373</li> <li>\$3.1/4/Dermal Acute Tox. 4 H312</li> <li>\$3.3/2 Eye Irrit. 2 H319</li> <li>\$3.1/4/Inhal Acute Tox. 4 H332</li> <li>\$3.8/3 STOT SE 3 H335</li> </ul>
	2-butoxyethanol; ethylene glycol monobutyl ether	Index number: CAS: EC: REACH No.:	111-76-2 203-905-0	♦ 3.1/3/Inhal Acute Tox. 3 H331 ♦ 3.1/4/Oral Acute Tox. 4 H302 • 3.2/2 Skin Irrit. 2 H315 • 3.3/2 Eye Irrit. 2 H319 Acute Toxicity Estimate: ATE - Oral 1200 mg/kg bw ATE - Inhalation (Vapours) 3 mg/l

#### **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 immediatley and dispose off safely.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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
- 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:

None

### **SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media:

CO2 or Dry chemical fire extinguisher.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

277/13



#### 5.3. Advice for firefighters

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.

#### **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.

See protective measures under point 7 and 8.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

None in particular

#### **SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

- OEL Type: ACGIH - TWA(8h): 1200 mg/m3, 197 ppm

aluminium powder (stabilised) - CAS: 7429-90-5

- OEL Type: ACGIH - TWA(8h): 1 mg/m3 - Notes: (R), A4 - Pneumoconiosis, LRT irr, neurotoxicity

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics

- OEL Type: ACGIH - TWA: 1755 mg/m3

reaction mass of ethylbenzene and xylene

- OEL Type: EU - TWA(8h): 221 mg/m3, 50 ppm - STEL: 442 mg/m3, 100 ppm - Notes:



Bold-type: Indicative Occupational Exposure Limit Values [2,3] and Limit Values for Occupational Exposure [4] (for references see bibliography)

- OEL Type: ACGIH - TWA(8h): 100 ppm - STEL: 150 ppm - Notes: A4, BEI - URT and eye irr, CNS impair

xylene (mixture of isomers) - CAS: 1330-20-7

- OEL Type: EU TWA(8h): 221 mg/m3, 50 ppm STEL: 442 mg/m3, 100 ppm Notes: Skin
- OEL Type: ACGIH TWA(8h): 20 ppm Notes: A4, BEI URT and eye irr; hematologic eff; CNS impair

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

- OEL Type: ÉU TWA(8h): 98 mg/m3, 20 ppm STEL: 246 mg/m3, 50 ppm Notes: Skin
- OEL Type: ACGIH TWA(8h): 20 ppm Notes: A3, BEI Eye and URT irr DNEL Exposure Limit Values

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

Consumer: 300 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects Worker Professional: 1.5 mg/l - Consumer: 0.9 mg/l - Exposure: Human Inhalation -

Frequency: Long Term, systemic effects

Worker Professional: 300 - Consumer: 300 mg/kg - Exposure: Human Dermal -

Frequency: Long Term, systemic effects

trizinc bis(orthophosphate) - CAS: 7779-90-0

Consumer: 0.83 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Worker Professional: 83 mg/kg - Consumer: 83 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 5 mg/m3 - Consumer: 2.5 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

reaction mass of ethylbenzene and xylene

Consumer: 12.5 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Worker Professional: 221 mg/m3 - Consumer: 260 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 77 mg/m3 - Consumer: 65.3 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 289 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Professional: 442 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 180 mg/kg - Consumer: 1872 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 3182 mg/kg - Exposure: Human Dermal - Frequency: Long Term, local effects

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

Worker Professional: 89 mg/kg - Consumer: 89 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Worker Professional: 1091 mg/m3 - Consumer: 426 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 125 mg/kg - Consumer: 75 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 98 mg/m3 - Consumer: 59 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 26.7 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects

Worker Professional: 246 mg/m3 - Consumer: 147 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects

Consumer: 6.3 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects PNEC Exposure Limit Values

trizinc bis(orthophosphate) - CAS: 7779-90-0



Target: Fresh Water - Value: 20.6 μg/l Target: Marine water - Value: 6.1 μg/l

Target: Freshwater sediments - Value: 117.8 mg/kg
Target: Marine water sediments - Value: 56.5 mg/kg
Target: Seil (agricultural) Value: 25.6 mg/kg

Target: Soil (agricultural) - Value: 35.6 mg/kg

Target: Microorganisms in sewage treatments - Value: 100 µg/l

reaction mass of ethylbenzene and xylene Target: Marine water - Value: 0.327 mg/l Target: Fresh Water - Value: 0.327 mg/l

Target: Marine water sediments - Value: 12.46 mg/kg Target: Freshwater sediments - Value: 12.46 mg/kg

Target: Microorganisms in sewage treatments - Value: 6.58 mg/l

Target: Soil (agricultural) - Value: 2.31 mg/kg

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

Target: Fresh Water - Value: 8.8 mg/l Target: Marine water - Value: 0.88 mg/l

Target: Freshwater sediments - Value: 34.6 mg/kg Target: Marine water sediments - Value: 3.46 mg/kg

Target: Microorganisms in sewage treatments - Value: 463 mg/l

Target: Food chain - Value: 20 mg/kg Target: Soil (agricultural) - Value: 2.33 mg/kg

8.2. Exposure controls

Eye protection:

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

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

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

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

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

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes
Physical state:	Liquid		
Colour:	various		
Odour:	characteristic of solvent		
Melting point/freezing point:	N.A.		
Boiling point or initial boiling point and boiling range:	N.A.		
Flammability:	Flam. Liq. 3, H226		



Lower and upper explosion limit:	N.A.			
Flash point:	>23 °C ° C			
Auto-ignition temperature:	N.A.			
Decomposition temperature:	N.A.			
pH:	N.A.			
Kinematic viscosity:	> 20,5 mm2/ sec (40 °C)			
Solubility in water:				
Solubility in oil:	N.A.			
Partition coefficient n-octanol/water (log value):	N.A.			
Vapour pressure:	N.A.			
Density and/or relative density:	1.28 kg/l			
Relative vapour density:	N.A.			
Particle characteristics:				
Particle size:	N.A.			

#### 9.2. Other information

Properties	Value	Method:	Notes
Viscosity:	>20.5 mm2/s		

### **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 hazard classes as defined in Regulation (EC) No 1272/2008 Toxicological information of the product:

277/13



**KIRON** 

a) acute toxicity

Not classified

No data available for the product

b) skin corrosion/irritation

Not classified

No data available for the product

c) serious eye damage/irritation

Not classified

No data available for the product

d) respiratory or skin sensitisation

Not classified

No data available for the product

e) germ cell mutagenicity

Not classified

No data available for the product

f) carcinogenicity

Not classified

No data available for the product

g) reproductive toxicity

Not classified

No data available for the product

h) STOT-single exposure

The product is classified: STOT SE 3 H336

i) STOT-repeated exposure

Not classified

No data available for the product

i) aspiration hazard

Not classified

No data available for the product

Toxicological information of the main substances found in the product:

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 5000 mg/m3

trizinc bis(orthophosphate) - CAS: 7779-90-0

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

reaction mass of ethylbenzene and xylene

a) acute toxicity

ATE - Dermal 1100 mg/kg bw

ATE - Inhalation (Vapours) 11 mg/l

Test: LD50 - Route: Skin - Species: Rabbit 5000 mg/kg Test: LD50 - Route: Oral - Species: Rat 3523 mg/kg

Test: LC50 - Route: Inhalation Vapour - Species: Rat 26 mg/l - Duration: 4h

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

a) acute toxicity

ATE - Oral 1200 mg/kg bw

ATE - Inhalation (Vapours) 3 mg/l

Test: LD50 - Route: Oral - Species: Rat 615 mg/kg Test: LD50 - Route: Skin - Species: Rabbit 405 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat 2.2 mg/l - Duration: 4h

#### 11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%



#### **SECTION 12: Ecological information**

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

**KIRON** 

The product is classified: Aquatic Chronic 3 - H412

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 1000 mg/l - Duration h: 96 Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 72 Endpoint: EC50 - Species: Daphnia 1000 mg/l - Duration h: 48

trizinc bis(orthophosphate) - CAS: 7779-90-0 reaction mass of ethylbenzene and xylene

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 4.093 mg/l - Duration h: 96 - Notes: Oncorhynchus mykiss

Endpoint: EC50 8.5 mg/l - Duration h: 48 - Notes: Palaemonetes pugio

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Fish 3.3 mg/l - Notes: Menidia menidia

Endpoint: NOEC 6.8 mg/l - Notes: Daphnia magna

2-butoxyethanol; ethylene glycol monobutyl ether - CAS: 111-76-2

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 1474 mg/l - Duration h: 96 Endpoint: EC50 - Species: Algae 1550 mg/l - Duration h: 48 Endpoint: EC50 - Species: Daphnia 1840 mg/l - Duration h: 72

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

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

None

### **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.

#### **SECTION 14: Transport information**

14.1. UN number or ID number

ADR-UN number: 1263 IATA-Un number: 1263 IMDG-Un number: 1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT or PAINT RELATED MATERIAL PAINT or PAINT RELATED MATERIAL PAINT or PAINT RELATED MATERIAL PAINT or PAINT RELATED MATERIAL

30

14.3. Transport hazard class(es)

ADR-Class: 3
ADR-Label: 3
ADR - Hazard identification number:

IATA-Class: 3 IATA-Label: 3



IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III
IATA-Packing group: III
IMDG-Packing group: III

14.5. Environmental hazards

ADR-Enviromental Pollutant: No Marine pollutant: No

14.6. Special precautions for user

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

IATA-Passenger Aircraft: 355 IATA-Cargo Aircraft: 366

14.7. Maritime transport in bulk according to IMO instruments

N.A.

#### **SECTION 15: Regulatory information**

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

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 (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2020/878

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. 2018/1480 (ATP 13 CLP) Regulation (EU) n. 2019/521 (ATP 12 CLP)

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

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

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

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:

Restriction 3

Restriction 40

Restrictions related to the substances contained:

Restriction 75

Where applicable, refer to the following regulatory provisions:

Directive 2012/18/EU (Seveso III)

Regulation (EC) nr 648/2004 (detergents).

Dir. 2004/42/EC (VOC directive)

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

Seveso III category according to Annex 1, part 1

Product belongs to category: P5c

15.2. Chemical safety assessment



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

#### **SECTION 16: Other information**

Full text of phrases referred to in Section 3:

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H261 In contact with water releases flammable gases.

H228 Flammable solid.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H319 Causes serious eye irritation.

H315 Causes skin irritation.

H335 May cause respiratory irritation.

H302 Harmful if swallowed.

H372 Causes damage to organs through prolonged or repeated exposure.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

H331 Toxic if inhaled.

Hazard class and hazard category	Code	Description
Water-react. 2	2.12/2	Substance or mixture which in contact with water emits flammable gas, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Flam. Sol. 1	2.7/1	Flammable solid, Category 1
Acute Tox. 3	3.1/3/Inhal	Acute toxicity (inhalation), Category 3
Acute Tox. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 1	3.9/1	Specific target organ toxicity - repeated exposure, Category 1
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2



Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2020/878. 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
Flam. Liq. 3, H226	On basis of test data
STOT SE 3, H336	Calculation method
Aquatic Chronic 3, H412	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 MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of

Dangerous Goods by Road.

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

CAS: Chemical Abstracts Service (division of the American Chemical

Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of

Chemicals.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport

Association" (IATA).

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.

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

PNEC: Predicted No Effect Concentration.



RID: Regulation Concerning the International Transport of Dangerous Goods

Short Term Exposure limit.
Specific Target Organ Toxicity.
Threshold Limiting Value.
Time-weighted average
German Water Hazard Class. STEL: STOT: TLV: TWA: WGK: