

Stonefix Injectiehars – Harder

Safety Data Sheet dated 01/02/2023, version 1

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

1.1. Product identifier

Mixture identification:
 Trade name: Stonefix Injectiehars -
 Harder Trade code: Stonefix Injectiehars - Harder
 UFI code Injectiehars – Harder: N5K8-QAR8-010N-SRTT

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

Recommended use:
 Hardner for epoxy resin

1.3. Details of the supplier of the safety data sheet

Stonefix
 Stonefix
 Stonefix

1.4. Emergency telephone number

Call the local poisoning emergency number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP):

- Danger, Skin Corr. 1B, Causes severe skin burns and eye damage.
- Danger, Eye Dam. 1, Causes serious eye damage.
- Warning, Skin Sens. 1A, May cause an allergic skin reaction.
- Warning, Repr. 2, Suspected of damaging fertility or the unborn child.
- Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.
- Aquatic Chronic 2, Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

- P202 Do not handle until all safety precautions have been read and understood.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- 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/doctor/...
- P391 Collect spillage.

Special Provisions:

None

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Contains

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
 2-piperazin-1-ylethylamine
 Polymeric reaction products of formaldehyde and 4-nonylpenol and triethylenetetramine and
 2-piperazin-1-ylethylamine

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

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

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
>= 50% - < 60%	Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	CAS: 68082-29-1 EC: 500-191-5 REACH No.: 01-2119972320-44-0002	⚠ 3.2/2 Skin Irrit. 2 H315 ⚠ 3.3/1 Eye Dam. 1 H318 ⚠ 3.4.2/1A Skin Sens. 1A H317 ⚠ 4.1/C2 Aquatic Chronic 2 H411
>= 20% - < 25%	Polymeric reaction products of formaldehyde and 4-nonylpenol and triethylenetetramine and 2-piperazin-1-ylethylamine	EC: 922-006-0	⚠ 3.2/1B Skin Corr. 1B H314 ⚠ 3.3/1 Eye Dam. 1 H318 ⚠ 3.4.2/1-1A-1B Skin Sens. 1,1A, 1B H317
>= 15% - < 20%	benzyl alcohol	Index number: 603-057-00-5 CAS: 100-51-6 EC: 202-859-9 REACH No.: 01-2119492630-38-xxxx	⚠ 3.1/4/Inhal Acute Tox. 4 H332 ⚠ 3.3/2 Eye Irrit. 2 H319 ⚠ 3.1/4/Oral Acute Tox. 4 H302
>= 5% - < 7%	2-piperazin-1-ylethylamine	Index number: 612-105-00-4 CAS: 140-31-8 EC: 205-411-0 REACH No.: 01-2119471486-30-XXXX	⚠ 3.1/3/Dermal Acute Tox. 3 H311 ⚠ 3.9/1 STOT RE 1 H372 ⚠ 3.4.2/1A Skin Sens. 1A H317 ⚠ 3.1/4/Oral Acute Tox. 4 H302 ⚠ 3.2/1B Skin Corr. 1B H314 ⚠ 3.7/2 Repr. 2 H361fd 4.1/C3 Aquatic Chronic 3 H412

SECTION 4: First aid measures
4.1. Description of first aid measures

In case of skin contact:

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

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Remove contaminated clothing immediately and dispose off 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.

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
 None

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:
 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.
 Burning produces heavy smoke.

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 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.
 Exercise the greatest care when handling or opening the container.
 Don't use empty container before they have been cleaned.
 Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
 See also section 8 for recommended protective equipment.
 Advice on general occupational hygiene:
 Contaminated clothing should be changed before entering eating areas.
 Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

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Store at 10-35 °C.
 The product may absorb moisture and carbon dioxide if left in open containers.
 This may result in some foaming when curing epoxy resins.
 Therefore, it should be kept in tightly closed containers when not in use and stored in a dry, cool and well-ventilated place.
 Properly protected from moisture, the product has a shelf life of 12 months.
 Keep away from food, drink and feed.
 Incompatible materials:
 None in particular.
 Instructions as regards storage premises:
 Adequately ventilated premises.
 Provisions related to directive EU 2012/18 (Seveso III):
 Seveso III category according to Annex 1, part 1

Product belongs to category:	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
E2	200	500

7.3. Specific end use(s)
 None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limit available

DNEL Exposure Limit Values

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine - CAS: 68082-29-1

Worker Industry: 3.9 mg/mq - Worker Professional: 3.9 mg/mq - Consumer: 0.97 mg/mq - Exposure: Human Inhalation - Frequency: Long Term (repeated)

Worker Industry: 1.1 mg/kg - Worker Professional: 1.1 mg/kg - Consumer: 0.56 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)

benzyl alcohol - CAS: 100-51-6

Worker Professional: 22 mg/mq - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 110 mg/mq - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 8 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes: p.c./day

Worker Professional: 8 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects - Notes: p.c./day

Consumer: 20 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects - Notes: p.c./day

2-piperazin-1-ylethylamine - CAS: 140-31-8

Worker Professional: 10.6 mg/mq - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 10.6 mg/mq - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Professional: 0.015 mg/mq - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 80 mg/mq - Exposure: Human Inhalation - Frequency: Short Term, local effects

PNEC Exposure Limit Values

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine - CAS: 68082-29-1

Target: Fresh Water - Value: 0.00434 mg/l

Target: Marine water - Value: 0.000434 mg/l

Target: Freshwater sediments - Value: 434.02 mg/kg

Target: Marine water sediments - Value: 43.4 mg/kg

Target: Soil (agricultural) - Value: 86.78 mg/kg

benzyl alcohol - CAS: 100-51-6

Target: Fresh Water - Value: 1 mg/l

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Target: Intermittent release - Value: 2.31 mg/l
 Target: Marine water - Value: 0.1 mg/l
 Target: Freshwater sediments - Value: 5.27 mg/kg
 Target: Soil (agricultural) - Value: 0.456 mg/kg
 2-piperazin-1-ylethylamine - CAS: 140-31-8
 Target: Fresh Water - Value: 0.058 mg/l
 Target: Marine water - Value: 0.0058 mg/l
 Target: Intermittent release - Value: 0.58 mg/l
 Target: Freshwater sediments - Value: 215 mg/kg - Notes:: dwt
 Target: Marine water sediments - Value: 21.5 mg/kg - Notes:: dwt
 Target: Microorganisms in sewage treatments - Value: 250 mg/l
 Target: Soil (agricultural) - Value: 1 mg/kg - Notes:: dwt

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:

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

Respiratory protection:

Not needed for normal use.

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:
Appearance and colour:	yellow-orange viscous liquid	--	--
Odour:	aminic	--	--
Odour threshold:	N.A.	--	--
pH:	11	--	--
Melting point / freezing point:	< 0°C	--	--
Initial boiling point and boiling range:	> 200°C	--	--
Flash point:	> 200 ° C	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	N.A.	--	--
Vapour pressure:	< 1 mbar	--	--
Vapour density:	N.A.	--	--
Relative density:	0.989 g/cc	--	--

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Solubility in water:	partially soluble	--	--
Solubility in oil:	soluble in aromatic solvents and alcohols	--	--
Partition coefficient (n-octanol/water):	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	N.A.	--	--
Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	N.A.	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	N.A.	--	--
Substance Groups relevant properties	N.A.	--	--

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 toxicological effects
Toxicological information of the product:
N.A.
- Toxicological information of the main substances found in the product:
Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
- CAS: 68082-29-1
 - a) acute toxicity:
 - Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
 - Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg
 - benzyl alcohol - CAS: 100-51-6

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- a) acute toxicity:
 Test: LD50 - Route: Skin - Species: Rabbit = 2000 mg/kg
 Test: LC50 - Route: Inhalation Mist - Species: Rat > 4178 mg/m³
 Test: LD50 - Route: Oral - Species: Rat = 1620 mg/kg
 2-piperazin-1-ylethylamine - CAS: 140-31-8
- a) acute toxicity:
 Test: LD50 - Route: Skin - Species: Rabbit = 866 mg/kg
 Test: LD50 - Route: Oral - Species: Rat = 2140 mg/kg
- b) skin corrosion/irritation:
 Test: Eye Corrosive Positive
 Test: Skin Corrosive Positive
 Test: Skin Sensitization Positive
- e) germ cell mutagenicity:
 Test: Mutagenesis Negative
- g) reproductive toxicity:
 Test: Reproductive Toxicity Negative
- h) STOT-single exposure:
 Test: Respiratory Tract Irritant Positive

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity

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

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
 - CAS: 68082-29-1

a) Aquatic acute toxicity:
 Endpoint: LC50 - Species: Algae = 1.25 mg/l - Duration h: 72

b) Aquatic chronic toxicity:
 Endpoint: EC50 - Species: Fish = 7.07 mg/l

benzyl alcohol - CAS: 100-51-6

a) Aquatic acute toxicity:
 Endpoint: LC50 - Species: Fish = 646 mg/l - Duration h: 48
 Endpoint: LC50 - Species: Fish = 460 mg/l - Duration h: 96
 Endpoint: EC50 - Species: Daphnia = 230 mg/l - Duration h: 48

2-piperazin-1-ylethylamine - CAS: 140-31-8

a) Aquatic acute toxicity:
 Endpoint: LC50 - Species: Fish = 2190 mg/l - Duration h: 96
 Endpoint: EC50 - Species: Daphnia = 58 mg/l - Duration h: 48
 Endpoint: LC50 - Species: Algae = 494 mg/l - Duration h: 72
 Endpoint: EC50 - Species: Algae = 1000 mg/l

12.2. Persistence and degradability

None

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
 - CAS: 68082-29-1

Biodegradability: Non-readily biodegradable

12.3. Bioaccumulative potential

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
 - CAS: 68082-29-1

Bioaccumulation: Not bioaccumulative - Test: BCF - Bioconcentration factor 77.4 - Notes: L/Kg

12.4. Mobility in soil

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Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
 - CAS: 68082-29-1

Mobility in soil: Not mobile

- 12.5. Results of PBT and vPvB assessment
 vPvB Substances: None - PBT Substances: None
- 12.6. 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
 ADR-UN Number: 2735
 IATA-UN Number: 2735
 IMDG-UN Number: 2735
- 14.2. UN proper shipping name
 ADR-Shipping Name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Polymeric reaction products of formaldehyde and 4-nonylpenol and triethylenetetramine and 2-piperazin-1-ylethylamine, 2-piperazin-1-ylethylamine)
 IATA-Shipping Name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Polymeric reaction products of formaldehyde and 4-nonylpenol and triethylenetetramine and 2-piperazin-1-ylethylamine, 2-piperazin-1-ylethylamine)
 IMDG-Shipping Name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Polymeric reaction products of formaldehyde and 4-nonylpenol and triethylenetetramine and 2-piperazin-1-ylethylamine, 2-piperazin-1-ylethylamine)
- 14.3. Transport hazard class(es)
 ADR-Class: 8
 ADR - Hazard identification number: 80
 IATA-Class: 8
 IATA-Label: 8
 IMDG-Class: 8
- 14.4. Packing group
 ADR-Packing Group: II
 IATA-Packing group: II
 IMDG-Packing group: II
- 14.5. Environmental hazards
 ADR-Environmental Pollutant: Yes
 IMDG-Marine pollutant: Marine Pollutant
 Most important toxic component: Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine
- 14.6. Special precautions for user
 ADR-Subsidiary hazards: -
 ADR-S.P.: 274
 ADR-Transport category (Tunnel restriction code): 2 (E)
 IATA-Passenger Aircraft: 851
 IATA-Subsidiary hazards: -
 IATA-Cargo Aircraft: 855
 IATA-S.P.: A3 A803
 IATA-ERG: 8L
 IMDG-EmS: F-A , S-B
 IMDG-Subsidiary hazards: -
 IMDG-Stowage and handling: Category A
 IMDG-Segregation: SG35

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14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
N.A.

SECTION 15: Regulatory information

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

- 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) 2015/830
- 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)

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

Restrictions related to the substances contained:

No restriction.

Volatile CMR substances = 0.00 %

Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %

Organic Carbon - C = 0.14

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)

15.2. Chemical safety assessment

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

SECTION 16: Other information

Text of phrases referred to under heading 3:

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H317 May cause an allergic skin reaction.
- H411 Toxic to aquatic life with long lasting effects.
- H314 Causes severe skin burns and eye damage.
- H332 Harmful if inhaled.
- H319 Causes serious eye irritation.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H412 Harmful to aquatic life with long lasting effects.

Hazard class and hazard category	Code	Description
Acute Tox. 3	3.1/3/Dermal	Acute toxicity (dermal), Category 3
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4

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Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1A	3.4.2/1A	Skin Sensitisation, Category 1A
Repr. 2	3.7/2	Reproductive toxicity, Category 2
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 Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification
 SECTION 7: Handling and storage
 SECTION 8: Exposure controls/personal protection
 SECTION 11: Toxicological information
 SECTION 12: Ecological information
 SECTION 14: Transport information
 SECTION 15: Regulatory information
 SECTION 16: Other information

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
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1A, H317	Calculation method
Repr. 2, H361	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 2, H411	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.

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