

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

1.1 Product identifier

Trade name: epros®Hardener (Comp. A) for silicate resin systems W1, W01, S1, L30E1, L30E3

Registration number Silicic acid, sodium salt: 01-2119448725-31-0004

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

Application of the substance / the preparation

inorganic binder / adhesive for industrial applications

1.3 Details of the supplier of the safety data

sheet Manufacturer/Supplier:

Trelleborg Pipe Seals Duisburg GmbH

Dr.-Alfred-Herrhausen-Allee 36

47228 Duisburg / Germany

Tel. +49/2065/999-0

Fax +49/2065/999-111

Further information obtainable from: technical department

1.4 Emergency telephone number: Tel.: +49/2065/999-150

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R38-41: Irritating to skin. Risk of serious damage to eyes.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05

Signal word Danger

Hazard-determining components of labelling:

Silicic acid, sodium salt, MR > 1,6 < 2,6

Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements

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

P262 Do not get in eyes, on skin, or on clothing.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.

2.3 Other hazards

Results of PBT and vPvB

assessment PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Description: Mixture of substances listed below with nonhazardous additions.

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Dangerous components:

CAS: 1344-09-8	Silicic acid, sodium salt, MR > 1,6 < 2,6	25-50%
EINECS: 215-687-4	Xi R38-41	
Reg.nr.: 01-2119448725-31-0004	Eye Dam. 1, H318; Skin Irrit. 2, H315	

Additional information

For the wording of the listed risk phrases refer to section 16.

4 First aid measures**4.1 Description of first aid measures****General information** Immediately remove any clothing soiled by the product.**After skin contact** Immediately rinse with water.**After eye contact** Rinse opened eye for several minutes under running water.**After swallowing**

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

Information for doctor**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents**

Product itself is not combustible; define extinguishing measures according to neighbouring conditions.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters**Protective equipment:** No special measures required.**6 Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Particular danger of slipping on leaked/spilled product.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

6.4 Reference to other sections

See Section 8 for information on personal protection equipment.

7 Handling and**Handling****7.1 Precautions for safe handling**

No special precautions are necessary if used correctly.

Information about fire - and explosion protection: No special measures required.**7.2 Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and receptacles:**

Provide alkali-resistant floor.

Do not use light alloy receptacles.

Suitable material for receptacles and pipes: steel or stainless steel.

Unsuitable material for receptacle: aluminium.

Unsuitable material for receptacle: glass or ceramic.

Unsuitable material for receptacle: zinc.

Information about storage in one common storage facility:

Do not store together with acids.

Further information about storage conditions: Protect from frost.**7.3 Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical facilities:**

No further data; see item 7.

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8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:**

Not required.

DNELs

Silicic acid, sodium salt:

DNEL dermal - workers, long-term = 1,59 mg/kg bw/d

DNEL inhalation - workers, long-term = 5,61 mg/m³ bw/d

DNEL dermal - general population, long-term = 0,80 mg/kg bw/d

DNEL inhalation - general population, long-term = 1,38 mg/m³ bw/d

DNEL oral - general population, long-term = 0,80 mg/kg bw/d

PNECs

Silicic acid, sodium salt:

PNEC aqua - freshwater = 7,5 mg/l

Additional information: Exposure scenario: see Annex**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and

skin. **Respiratory protection:** Notrequired. **Protection of hands:**

Protective gloves.

Material of gloves

Natural Latex with small amount of polychloroprene Latex. (Lapren, Company KCL)

Penetration time of glove materialValue for the permeation: Level ≥ 6

Indications are based on information by the producer of the gloves resp. literature or derived from similar substances by analogy.

Eye protection:

Tightly sealed goggles.

Body protection: Alkaline resistant protective clothing**9 Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Fluid
Colour:	Colourless
Odour:	Odourless

pH-value at 20°C: ca. 12.5

Change in condition

Boiling point/Boiling range: > 100°C

Flash point: Not applicable

Self-igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Density at 20°C: ca. 1.55 g/cm³**Solubility in / Miscibility with**

Water: Fully miscible

Viscosity:

dynamic at 20°C: ca. 600 mPas

Organic solvents: 0.0 %

9.2 Other information

No further relevant information available.

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10 Stability and reactivity**10.1 Reactivity****10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions

Strong exothermic reaction with acids

Reacts with light alloys to form hydrogen

10.4 Conditions to avoid No further relevant information available.**10.5 Incompatible materials:** No further relevant information available.**10.6 Hazardous decomposition products:** No dangerous decomposition products known**11 Toxicological information****11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:****1344-09-8 Silicic acid, sodium salt, MR > 1,6 < 2,6**

Oral | LD 50 | > 2000 mg/kg (rat)

Primary irritant effect:**on the skin:** Irritant to skin and mucous membranes.**on the eye:** Strong irritant with the danger of severe eye injury.**Sensitization:** No sensitizing effects known.**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

Irritant

12 Ecological information**12.1 Toxicity****Acquatic toxicity:****1344-09-8 Silicic acid, sodium salt, MR > 1,6 < 2,6**

LC 50 / 96h | > 100 mg/l (zebra-fish)

12.2 Persistence and degradability No further relevant information available.**Other information:**

Readily eliminable from water.

Inorganic product; biotic degradation not applicable.

Behaviour in environmental systems:**12.3 Bioaccumulative potential** No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** No toxicity after neutralization.**Behaviour in sewage processing plants:**

The product is an alkaline solution. Neutralization is normally necessary before a waste water is discharged into sewage treatment plants.

Additional ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects** No further relevant information available.**13 Disposal considerations****13.1 Waste treatment methods****Recommendation**

Can be disposed off with rubble after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

European waste catalogue

Waste catalogue numbers are to be defined according to EWC-Directive, specially for application sectors.

Uncleaned packaging:**Recommendation:** Disposal must be made according to official regulations.

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Recommended cleansing agents: Water, if necessary together with cleansing agents.

14 Transport information

14.1 UN-Number ADR, ADN, IMDG, IATA	Void
14.2 UN proper shipping name ADR, ADN, IMDG, IATA	Void
14.3 Transport hazard class(es) ADR, ADN, IMDG, IATA Class	Void
14.4 Packing group ADR, IMDG, IATA	Void
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user	Not applicable.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	-

15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
Water hazard class: water hazard class 1: slightly hazardous for water
15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

16 Other information

The product is designed exclusively for professional/industrial application (see product information). This information is based on our level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Relevant phrases

- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- R38 Irritating to skin.
- R41 Risk of serious damage to eyes.

Department issuing MSDS: Laboratory

Contact: Mrs. Dr. Kissel

Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organization
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- DNEL: Derived No-Effect Level (REACH)
- PNEC: Predicted No-Effect Concentration
- (REACH) LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent

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Annex: Exposure scenario 1

Short title of the exposure scenario

Workplace exposure to sodium silicate (EC 215-687-4), potassium silicate (EC 215-199-1) and disodium metasilicate (EC 229-912-9) solutions

Sector of Use SU 3 and SU 22

Process category 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 11, 13, 14, 22, 23, 24

Environmental release category not required

Description of the activities / processes covered in the Exposure Scenario

Manufacture of the substance as well as industrial and professional uses.

Conditions of use

Whenever handling sodium/potassium silicate/disodium metasilicate as a substance on its own or in a preparation outside closed systems, depending on the use and concentration suitable personal protective equipment (gloves, goggles, dust masks or respirators) are the preferred and only measures of control.

Duration and frequency

Covers frequency up to: daily use, weekly, monthly, yearly [G6]

Except for PROCs 7 and 11: Avoid carrying out operation for more than 1 hour [OC11]

Physical parameters liquid, solution, vapour pressure 0.0103 kPa (1175 °C) [OC3].

Concentration of the substance in the mixture

Covers percentage substance in the product up to 100 % [G13], unless otherwise stated.

Used amount per time or activity No limit

Other operational conditions**Other operational conditions affecting worker exposure**

Assumes a good basic standard of occupational hygiene is implemented [G1]. The work occurs inside as well outside [OC8, OC9]

Risk management measures

PROC 1, 2, 3 - Handle substance within a closed system [E47]. No other specific measures identified [EI20].

PROC 4, 5, 6, 8a, 8b, 9, 10, 13, 14, 22, 23, 24 - Wear suitable gloves (tested to EN374) and eye protection [PPE19].

PROC 7, 11 - Covers percentage substance in the product up to 25% [G12]. Provide enhanced general ventilation by mechanical means [E48]. Wear suitable gloves (tested to EN374) and eye protection [PPE19]. or

Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE 29]. Avoid carrying out operation for more than 1 hour [OC11]. Wear suitable gloves (tested to EN374) and eye protection [PPE19].

Exposure estimation

The ECETOC TRA tool with modifications as outlined in the CAS has been used to estimate worker exposures.

Environment

Not required, as soluble silicates, including sodium/potassium silicate/disodium metasilicate, do not meet the criteria for classification as dangerous to the environment according to 67/548/EEC (See Article 14.4 of REACH Regulation). Furthermore, as high production volume substances, soluble silicates have been reviewed to a great extent for their exposure potential to the environment and the possible risks arising from their release (Van Dokkum et al. 2002, OECD SIDS 2004, HERA 2005, and CEES 2008). It was concluded that soluble silicates are currently of low priority for further work because of their low hazard profile.

Guidance for downstream users

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions already outlined are implemented. [G22].

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23].

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Annex: Exposure scenario 2

Short title of the exposure scenario

Workplace exposure to sodium silicate (EC 215-687-4), potassium silicate (EC 215-199-1) and disodium metasilicate (EC 229-912-9) powder

Sector of Use SU 3 and SU 22

Process category 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 11, 13, 14, 22, 23, 24

Environmental release category not required

Description of the activities / processes covered in the Exposure Scenario

Manufacture of the substance as well as industrial and professional uses.

Conditions of use

Whenever handling sodium/potassium silicate/disodium metasilicate as a substance on its own or in a preparation outside closed systems, depending on the use and concentration suitable personal protective equipment (gloves, goggles, dust masks or respirators) are the preferred and only measures of control.

Worker

Covers frequency up to: daily use, weekly, monthly, yearly [G6], unless otherwise stated.

Physical parameters solid, powder, vapour pressure 0.0103 kPa (1175 °C) [OC3]

Concentration of the substance in the mixture

Covers percentage substance in the product up to 100 % [G13], unless otherwise stated.

Used amount per time or activity No limit

Other operational conditions**Other operational conditions affecting worker exposure**

Assumes a good basic standard of occupational hygiene is implemented [G1]. The work occurs inside as well outside [OC8, OC9]

Risk management measures

PROC 1, 2, 3 - Handle substance within a closed system [E47]. No other specific measures identified [EI20].

PROC 4, 5, 6, 8a, 8b, 9, 10, 13, 14, 22, 23, 24 - Wear suitable gloves (tested to EN374) and eye protection [PPE19].

PROC 7, 11 - Provide enhanced general ventilation by mechanical means [E48]. Wear suitable gloves (tested to EN374) and eye protection [PPE19]. or

Wear a respirator conforming to EN140 with Type A/P2 filter or better [PPE 29].

Wear suitable gloves (tested to EN374) and eye protection [PPE19].

Exposure estimation

The ECETOC TRA tool with modifications as outlined in the CAS has been used to estimate worker exposures.

Environment

Not required, as soluble silicates, including sodium/potassium silicate/disodium metasilicate, do not meet the criteria for classification as dangerous to the environment according to 67/548/EEC (See Article 14.4 of REACH Regulation). Furthermore, as high production volume substances, soluble silicates have been reviewed to a great extent for their exposure potential to the environment and the possible risks arising from their release (Van Dokkum et al. 2002, OECD SIDS 2004, HERA 2005, and CEES 2008). It was concluded that soluble silicates are currently of low priority for further work because of their low hazard profile.

Guidance for downstream users

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions already outlined are implemented. [G22].

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23].

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Annex: Exposure scenario 3

Short title of the exposure scenario Use in Consumer products

Sector of Use 21

Product category 1, 9a, 9b, 14, 15, 17, 23, 24, 26, 30, 33, 34, 35, 39

Environmental release category not required

Description of the activities / processes covered in the Exposure Scenario

Covers general exposures to consumers arising from the use of household products sold

Conditions of use

Duration and

frequency

Unless otherwise stated, covers use frequency up to 4 times per day [ConsOC4]; covers exposure up to 8 hours per event [ConsOC14].

Physical parameters Vapour pressure < 0,5 kPa

Physical state Powder or liquid

Concentration of the substance in the mixture

Unless otherwise stated, cover concentrations up to 100% [ConsOC1].

Used amount per time or activity

Unless otherwise stated, covers use amounts up to 37500 g [ConsOC2]; covers skin contact area up to 6660 cm² [ConsOC5].

Other operational conditions

Other operational conditions affecting consumer exposure

Unless otherwise stated assumes use at ambient temperatures [ConsOC15]; assumes use in a 20 m³ room [ConsOC11]; assumes use with typical ventilation [ConsOC8].

Risk management measures

PCs - general case

OC - In consumer products the irritation hazard of soluble silicates is addressed, if necessary, by appropriate labelling and the advice to use (household) gloves on the consumer product. In general, dermal, inhalation and oral consumer exposure are minimised due to formulation (limited concentration of soluble silicates, particle size distribution, agglomeration and dust potential, tablets and gels), packaging and bad taste of commercially available products.

RMM - No specific RMMs identified beyond those OCs stated.

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PC - 1, 9a, 9b, 14, 15, 17, 23, 24, 26, 30, 33, 34, 39

OC - Covers use up to 365 days/year [ConsOC3]; covers use under typical household ventilation [ConsOC8]; covers default OCs of ECETOC TRA tool.

RMM - No specific RMMs identified beyond those OCs stated.

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PC 35 - laundry handwashing (example)

OC - Unless otherwise stated, covers concentrations up to 25% [ConsOC1]; covers use up to 4 days/week [ConsOC3]; covers use up to 1 time/on day of use [ConsOC4]; covers skin contact area up to 1980 cm² [ConsOC5]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20m³ [ConsOC11]; for each use event, covers exposure up to 0.17 hr/event [ConsOC14].

RMM - No specific RMMs identified beyond those OCs stated.

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PC 35 - pre-treatment of clothes (example)

OC - Unless otherwise stated, covers concentrations up to 60% [ConsOC1]; covers use up to 21 tasks/week [ConsOC3]; covers skin contact area up to 840 cm² [ConsOC5]; covers use under typical household ventilation [ConsOC8]; covers use in room size of 20 m³ [ConsOC11]; for each use event, covers exposure up to 0.17 hr/event [ConsOC14].

RMM - No specific RMMs identified beyond those OCs stated.

Exposure estimation

The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report no. 107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.

Guidance for downstream users

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions already outlined are implemented. [G22].

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. [G23].

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