

SECTION 1. Identification of the substance/mixture and of the company/enterprise

1.1. Product identifier

Product name : X5S
Product code: refer to sales department

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

Alkaline cleaning

Sectors of use:

Industrial Manufacturing[SU3], Manufacture of food products[SU4]

Product category:

Washing and Cleaning Products (including solvent based products)

Process categories:

Use in batch and other process (syn- thesis) where opportunity for exposure arises[PROC4], Transfer of substance or mixture (charging and discharging) at dedicated facilities[PROC8B], Treatment of articles by dipping and pouring [PROC13]

Not recommended uses

Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

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SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:
GHS05

Hazard Class and Category Code(s):
Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1

Hazard statement Code(s):
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.

The product can be corrosive to metals
Corrosive product: causes severe skin burns and eye damage.
If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):
GHS05 - Danger

Hazard statement Code(s):
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.

Supplemental Hazard statement Code(s):
not applicable



Precautionary statements:

Prevention

P260 - Do not breathe vapours/spray.

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

Response

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

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

Contains:

Sodium hydroxide

Contains (Reg.EC 648/2004):

5% < 15% EDTA and salts thereof, < 5% non-ionic surfactants, phosphonates

2.3. Other hazards

The substance / mixture does NOT contain substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

Do not ingest. Keep out of reach of children.

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACH
Sodium hydroxide	>= 10 < 25%	Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 Limits: Skin Corr. 1A, H314 %C >=5; Skin Corr. 1B, H314 2<= %C <5; Eye Irrit. 2, H319 0,5<= %C <2; Eye Dam. 1, H318 %C >=2; Skin Irrit. 2, H315 %C >=0,5;	011-002-00-6	1310-73-2	215-185-5	01-2119457 892-27-XXX X
Tetrasodium ethylene diamine tetraacetate	>= 5 < 10%	Acute Tox. 4, H302; Eye Dam. 1, H318; Acute Tox. 4, H332; STOT RE 2, H373	607-428-00-2	64-02-8	200-573-9	01-2119486 762-27-XXX X

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACH
		ATE oral = 1.780,0 mg/kg ATE inhal = 1,5mg/l/4 h (dust-mist)				

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation:

Ventilate the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product):

Take off immediately contaminated clothing.
In case of contact with skin, wash immediately with water.
Immediately consult a physician.

Direct contact with eyes (of the pure product):

Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately
Do not use eye drops or ointments of any kind before the examination or advice from an oculist.

Ingestion:

Rinse mouth immediately.
Absolutely do not induce vomiting or emesis. Seek medical advice immediately.

4.2. Most important symptoms and effects, both acute and delayed

Ingestion can cause chemical burns in the mouth and throat.
Contact with skin may cause burns.
In contact with eyes it causes very strong irritation, including redness and tearing.

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, contact a physician and if possible show this MSDS

Symptomatic treatment

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suggested extinguishing media:

Water spray, CO₂, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing media to avoid:

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use protection for the breathing apparatus

Safety helmet and full protective clothing.

The water spray can be used to protect the people involved in the extinction.

You may also use self-contained breathing apparatus, especially when working in confined and poorly ventilated areas.

Keep containers cool with water spray

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Move away from the area surrounding the spill or release. Not smoking.

Wear a mask, gloves and protective clothing.

6.1.2 For emergency responders:

Eliminate all unguarded flames and possible sources of ignition. No smoking.

Provide a sufficient ventilation.

Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spills with earth or sand.

If the product has entered a watercourse, sewers or has contaminated soil or vegetation, notify the authorities.

Dispose of the waste material in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 Containment:

Rapidly recover the product, wear a mask and protective clothing (for specifications refer to section 8.2. SDS)

Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert material or suck it.

Prevent it from entering the sewer system.

6.3.2 Cleaning up:

After wiping up, wash with water the area and materials involved

6.3.3 Other information:

None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid contact and inhalation of vapors
Wear protective gloves/clothing and eye/face protection
Handle the product after consulting all other sections of this safety data sheet.
At work do not eat or drink.
See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabelled containers.
Keep containers upright and safe by avoiding the possibility of falls or collisions.
Store in a cool and dry place, away from heat sources and direct exposure to sunlight.

7.3. Specific end use(s)

Industrial Manufacturing:

Handle with extreme caution. Store in a well-ventilated place away from heat sources (7-30 ° C) in the original, tightly closed container.
Follow the specific exposure scenarios attached

Manufacture of food products:

Handle with extreme caution. Store in a well-ventilated place away from heat sources (7-30 ° C) in the original, tightly closed container.
Follow the specific exposure scenarios attached

See the annex exposure scenario.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

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Related to contained substances:
Sodium hydroxide:
Limit value – Eight hours
(ppm)/(mg/m³)
Austria: x/2 inhalable aerosol
Belgium: x/2 (1)
Denmark: x/2
France: x/2
Hungary: x/2
Japan (JSOH): x/2(1)
Latvia: x/0,5
Poland: x/0,5
Romania: x/1
Spain: x/2
Sweden: x/1 (1)
Switzerland: x/2 inhalable aerosol (MAK)
USA – OSHA: x/2

Limit Value – Short Term
(ppm)/(mg/m³)
Australia: x/2(1)
Austria: x/4 inhalable aerosol
Canada - Ontario: x/2(1)
Canada – Québec: x/2(1)

Denmark: x/2
Finland: x/2(1)
Hungary: x/2
Ireland: x/2(1)
New Zealand: x/2(1)
People's Republic of China: x/2(1)
Poland: x/1
Romania: x/3(1)
Singapore: x/2
South Korea: x/2(1)
Sweden: x/2(1)(2)
Switzerland: x/2 inhalable aerosol (MAK)
USA – NIOSH: x/2(1)
United Kingdom: x/2

Remarks:

Australia: (1) Ceiling limit value
Canada – Ontario: (1) Ceiling limit value
Canada – Québec: (1) Ceiling limit value
Finland: (1) Ceiling limit value
Ireland: (1) 15 minutes reference period
Japan: (1) Occupational exposure limit ceiling: Reference value to the maximal exposure concentration of the substance during a working day
New Zealand: (1) Ceiling limit value
People's Republic of China: (1) Ceiling limit value
South Korea: (1) Ceiling limit value
Romania: (1) 15 minutes average value
Sweden: (1) Inhalable dust (2) Ceiling limit value
USA – NIOSH: (1) Ceiling limit value (15 min)
Argentina: CMP-C: 2 mg/m³
Czech Republic: PEL 1 mg/m³/ NPK-P 2 mg/m³
Italy: OEL: ACGIH -STEL: C 2.0 mg/m³; Tipo OEL: ACGIH - STEL: C2 mg/m³ - Note: URT, eye, and skin irr
Estonia: short-term exposure limit (maximum chemical substance average allowable concentration in inhaled air - 15 minutes) 2 mg/m³(Ceiling limit" means a maximum permissible continuous concentration of 15 minutes in the air for rapidly acting substances)
Norway: ceiling value (a moment value that indicates the maximum concentration of a chemical in the breathing zone that should not be exceeded) 2 mg/m³
Lithuania: NRD 2 mg/m³
Slovakia: NPEL 2 mg/m³
South Africa: Short Term OEL-CL 2 mg/m³

- Substance: Sodium hydroxide

DNEL

Systemic effects Short term Workers inhalation = 1 (mg/m³)
Systemic effects Short term Consumers inhalation = 1 (mg/m³)
Local effects Short term Workers inhalation = 1 (mg/m³)
Local effects Short term Consumers inhalation = 1 (mg/m³)

- Substance: Tetrasodium ethylene diamine tetraacetate

DNEL

Systemic effects Long term Consumers oral = 25 (mg/kg bw/day)
Local effects Long term Workers inhalation = 1,5 (mg/m³)
Local effects Long term Consumers inhalation = 0,6 (mg/m³)
Local effects Short term Workers inhalation = 3 (mg/m³)
Local effects Short term Consumers inhalation = 1,2 (mg/m³)

PNEC

Sweet water = 2,2 (mg/l)
Sea water = 0,22 (mg/l)
intermittent emissions = 1,56 (mg/l)

STP = 43 (mg/l)
ground = 0,72 (mg/kg ground)

8.2. Exposure controls

Appropriate engineering controls:

Industrial Manufacturing:

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

Manufacture of food products:

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

8.2.2 Individual protection measures:

(a) Eye / face protection

Wear protective goggles (EN 166).

(b) Skin protection

(i) Hand protection

When handling the pure product use chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3).

(ii) Other

During working operation wear protective clothing (generic workwear / antacid, safety shoes or other protective equipment) according to the instructions of the employer

(c) Respiratory protection

Not needed for normal use.

In case of insufficient ventilation or emergency, use mask with Universal filters (EN 405) unless otherwise provided by the employer and / or assessments of environmental investigations hygienistic.

None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information.

Use certified respiratory protection equipment meeting EU requirements (89/656/EEC, 245/2016 UE), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization

(d) Thermal hazards

No hazard to report

Environmental exposure controls:

Use according to good working practices and avoid to disperse the product into the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	slightly cloudy liquid	
Colour	light yellow	

Physical and chemical properties	Value	Determination method
Odour	not determined as it is considered not relevant for the characterization of the product	
Odour threshold	not determined as considered not relevant for the characterization of the product	
pH	> 12 (20 ° C; sol 3%); > 12 (20 ° C sol 100%)	
Melting point/freezing point	not determined as it is considered not relevant for the characterization of the product	
Initial boiling point and boiling range	not determined as it is considered not relevant for the characterization of the product	
Flash point	not determined as it is considered not relevant for the characterization of the product	
Evaporation rate	not determined as it is considered not relevant for the characterization of the product	
Flammability (solid, gas)	not determined as it is considered not relevant for the characterization of the product	
Upper/lower flammability or explosive limits	not determined as it is considered not relevant for the characterization of the product	
Vapour pressure	not determined as it is considered not relevant for the characterization of the product	
Vapour density	not determined as it is considered not relevant for the characterization of the product	
Relative density	1.30 ± 0.05 (20 ° C)	
Solubility	in water	
Water solubility	miscible in all proportions	
Partition coefficient: n-octanol/water	not determined as it is considered not relevant for the characterization of the product	
Auto-ignition temperature	not determined as it is considered not relevant for the characterization of the product	
Decomposition temperature	not determined as it is considered not relevant for the characterization of the product	
Viscosity	not determined as it is considered not relevant for the characterization of the product	
Explosive properties	not determined as it is considered not relevant for the characterization of the product	
Oxidising properties	not determined as it is considered not relevant for the characterization of the product	

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

Strong base

10.2. Chemical stability

Stable under recommended storage and handling conditions

10.3. Possibility of hazardous reactions

It reacts with aluminum, tin, zinc and their alloys, bronze, lead, etc. emitting hydrogen. Exothermic reaction with strong acids.

10.4. Conditions to avoid

Avoid prolonged contact with air, storage at temp. below 10 ° C and the provisions of 10.3

10.5. Incompatible materials

It can generate flammable gases in contact with halogenated organic substances, elementary metals.

10.6. Hazardous decomposition products

It does not decompose when used for its intended uses.

SECTION 11. Toxicological information

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

ATE(mix) oral = 22.820,5 mg/kg

(a) acute toxicity: Sodium hydroxide: Ingestion - LD50 rat (mg / kg / 24h bw): nd

Skin contact - LC50 rabbit (mg / kg / 24h bw): 1350

Inhalation - LD50 rat (mg / l / 4h): nd

Tetrasodium ethylene diamine tetraacetate: Ingestion - LD50 rat (mg / kg / 24h bw): 1 780 - 2 000

Skin contact - LC50 rat / rabbit (mg / kg / 24h bw): nd

Inhalation - LD50 rat (mg / l / 4h): > 1 - 5 (dust-fog)

(b) skin corrosion/irritation: Corrosive product: causes severe skin burns and eye damage.

Sodium hydroxide: Corrosive

Tetrasodium ethylene diamine tetraacetate: Not corrosive

Sodium hydroxide: Irritating

Tetrasodium ethylene diamine tetraacetate: Treatment of intact rabbit skin with an aqueous 80% Na₄ EDTA preparation caused mild or absent irritation. These data show that it is not necessary to classify and label the substance for skin irritant properties based on EU or GHS regulations.

(c) serious eye damage/irritation: Corrosive product: causes severe skin burns and eye damage. - If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

Sodium hydroxide: Corrosive

Tetrasodium ethylene diamine tetraacetate: The opacity caused by the instillation of the undiluted substance in the eye of the rabbits is irreversible. These data demonstrate that it is necessary to classify and label the substance for irritant and corrosive properties according to EU or GHS regulations.

Sodium hydroxide: Irritating

Tetrasodium ethylene diamine tetraacetate: The opacity caused by the instillation of the undiluted substance in the eye of the rabbits is irreversible. These data demonstrate that it is necessary to classify and label the substance for irritant and corrosive properties according to EU or GHS regulations.

(d) respiratory or skin sensitisation: Sodium hydroxide: Not sensitizing

Tetrasodium ethylene diamine tetraacetate: Not sensitizing

(e) germ cell mutagenicity: Sodium hydroxide: NaOH did not induce mutagenicity in in vitro and in vivo studies (EU RAR, 2007; section 4.1.2.7, page 73).

Tetrasodium ethylene diamine tetraacetate: As for Na₄EDTA, no genotoxicity studies are available, therefore data from other sodium EDTA and free acid EDTA salts have been considered. (For the read-across justification, see also section 13). The Na EDTA salts were negative in numerous Ames tests. The Na salts of EDTA were negative in numerous tests on mouse lymphoma. Numerous other tests were performed in vitro and in general the EDTA was not genotoxic in vitro. In vivo, somatic cells in mice (bone marrow cells) showed negative results compared to micronuclei endpoints, aneuploidy and sibling chromatid exchanges. In germ cells, negative results have been obtained for the induction of structural chromosomal aberrations in spermatogonia, for the induction of aneuploidy in primary and secondary spermatocytes and also for the induction of dominant lethals. A positive result was obtained in a micronucleus test

(f) carcinogenicity: Sodium hydroxide: Systemic carcinogenicity is not expected to occur as NaOH is not expected to be systemically available in the body under normal conditions of handling and use. Finally, adequate studies are not available to assess the risk on local carcinogenic effects.

Tetrasodium ethylene diamine tetraacetate: There are no epidemiological studies available to evaluate the carcinogenic potential of Na₄EDTA. No carcinogenicity studies of Na₄EDTA are available. Therefore, carcinogenicity studies with Na₃EDTA were used for evaluation. A biological assay of Na₃EDTA for possible carcinogenicity was conducted by administering test material in the diet to Fischer rats 344 and B6C3F1 mice. The studies did not report specific data on renal toxicity in either species even though histology was performed. Although a variety of tumors occurred between the test and control animals of both species, no tumor was related to treatment. Summing up the negative results of the carcinogenicity study and of the SHE cell transformation tests, as well as the general non-mutagenicity after oral doses, it can be concluded that there are no concerns about a carcinogenic potential of EDTA.

(g) reproductive toxicity: Sodium hydroxide: NaOH is not expected to be systemically available in the body under normal conditions of handling and use and for this reason it can be said that the substance will neither reach the fetus nor reach the male and female reproductive organs (EU RAR Sodium Hydroxide (2007), section 4.1.2.8, page 73). It can be concluded that a specific study is not required to determine reproductive toxicity.

Tetrasodium ethylene diamine tetraacetate: Numerous in vitro tests are available on the teratogenic effects of EDTA or Na salts of EDTA. However, they gave inconsistent results and were generally not well reported. Therefore they were not considered for risk assessment. There are 2 cases of pregnant women treated with CaNa₂EDTA due to lead intoxication. However, as these treatments were performed late in pregnancy, these data were not considered for risk assessment. Endpoint conclusion: no observed adverse effects (negative)

(h) specific target organ toxicity (STOT) single exposure: Sodium hydroxide: The substance can be absorbed into the body by inhalation of its aerosol, by ingestion and by contact with the skin causing corrosion

Tetrasodium ethylene diamine tetraacetate: Non-toxic

(i) specific target organ toxicity (STOT) repeated exposure: Sodium hydroxide: The introductory sections of Annexes VII-X indicate a specific adaptation to standard information requirements as in vivo testing should be avoided with corrosive substances at concentration / dose levels causing corrosivity. However, NaOH is not expected to be systemically available in the body under normal conditions of handling and use and therefore no systemic effects of NaOH are expected after repeated exposure (EU RAR sodium hydroxide (2007); section 4.1.3.1.4, page 76).

Tetrasodium ethylene diamine tetraacetate: Based on the results obtained in the toxicity studies and taking into account the provisions established in the CLP Regulation, a classification as STOT RE Cat 2 (H373)

NOAEL oral (rat): 500 mg / kg bw / day

NOAEL oral (mouse) is justified : 938 mg / kg bw / day

NOAEC inhalation (rat): 3 - 15 mg / m³ air

LOAEC inhalation (rat): 15 - 30 mg / m³ air

(j) aspiration hazard: Sodium hydroxide: Not available

Tetrasodium ethylene diamine tetraacetate: Not classified

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

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Related to contained substances:

Sodium hydroxide:

Acute toxicity - fish LC50 (mg / l / 96h): 45

Acute toxicity - crustaceans EC50 (mg / l / 48h): 40

Acute toxicity to algae ErC50 (mg / l / 72-96h): n.d

Chronic toxicity - fish NOEC (mg / l): n.d

Chronic toxicity - crustaceans NOEC (mg / l): n.d

Chronic toxicity to algae NOEC (mg / l): n.d

Available data indicate that NaOH concentrations of approximately 20 to 40 mg / L may be acutely toxic to fish and invertebrates (single species test). There is a lack of data on the increase in pH due to the addition of these quantities of NaOH in the test waters used. In waters with relatively low buffering capacity, NaOH concentrations of 20-40 mg / L may lead to an increase in pH with one or more pH units (EU RAR, 2007; section 3.2.1.1.3, page 30).

The OECD SIDS (2002) assigned a low reliability code ("invalid" or "not assignable") to all available tests, since in general the tests were not conducted according to current guidelines (EU RAR, 2007 ; section 3.2. 1.1.4, page 30). Furthermore, in many test reports there were no data on pH, buffer capacity and / or composition of the test medium, although this is essential information for NaOH toxicity testing. This is the most important reason why most of the tests were considered "invalid". Despite this lack of valid data, it is not necessary to perform further aquatic toxicity tests with NaOH, as all available tests have resulted in a rather small range of toxicity values (acute toxicity test: 20 to 450 mg / L; test chronic toxicity: > or = 25 mg / L) and there are sufficient data on the pH ranges tolerated by the main taxonomic groups.

Furthermore, a generic PNEC cannot be derived from the single species toxicity data for NaOH, as the pH of natural waters and the buffering capacity of natural waters show considerable differences and aquatic organisms / ecosystems are adapted to these specific natural conditions, with resulting in different pH optima and tolerated pH ranges (EU RAR, 2007; section 3.2.1.1.4, page 30). According to the OECD SIDS (2002), a lot of information is available on the relationship between pH and ecosystem structure, and natural changes in the pH of aquatic ecosystems have also been quantified and widely reported in ecological publications and manuals.
C(E)L50 (mg/l) = 45

Tetrasodium ethylene diamine tetraacetate:

Acute toxicity - fish LC50 (mg / l / 96h): 41 - 1 592 (frequent value > 100)

Acute toxicity - fish LC100 (mg / l / 96h) 75 - 1 846

Acute toxicity - crustaceans EC50 (mg / l / 48h): 140

Acute toxicity - crustaceans EC50 (mg / l / 24h): 610 - 625 (frequent value > 500)

Acute toxicity - crustaceans EC0 (mg / l / 48h): 100

Acute toxicity - crustaceans EC0 (mg / l / 24h): 310

Acute toxicity - crustaceans E100 (mg / l / 48h): 180

Acute algae toxicity ErC50 (mg / l / 72h): 2.77 - 1 000 (frequent data > 100)

Acute algae toxicity EC10 (µg / l / 72h): 700 - 307 630

Acute algae toxicity EC90 (mg / l / 72h): 100

Chronic toxicity - NOEC fish (mg / l 35 g) 25.7

Chronic toxicity - crustaceans NOEC (mg / l 21g): 25
Chronic toxicity - crustaceans LOEC (mg / l 21g): 50
Chronic toxicity - NOEC algae (μg / l 72h): 390 - 100 000
Chronic toxicity - LOEC algae (μg / l 21g): 780 - 1 000 000

Microorganism toxicity - EC10 (30 min) 500 mg / L
Terrestrial macroorganism toxicity except anthropod EC50 (14 g) 156.46 mg / kg soil
C(E)L50 (mg/l) = 100
NOEC (mg/l) = 25

Use according to good working practices and avoid to disperse the product into the environment.

12.2. Persistence and degradability

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Related to contained substances:

Sodium hydroxide:

according to REACH regulation, it is not necessary to conduct the study if the substance is inorganic (Annex VII, adaptation column 2).

Tetrasodium ethylene diamine tetraacetate:

The EDTA (acid form) and its salts are not readily biodegradable according to the OECD criteria. It has been shown that under special conditions (slightly alkaline adaptation or pH, a realistic condition of water below the environmental surface, the biodegradability of EDTA is considerably. Therefore it can be concluded that EDTA is ultimately biodegradable under such environmental conditions.

12.3. Bioaccumulative potential

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Related to contained substances:

Sodium hydroxide:

According to REACH, it is not necessary to conduct the study if the substance has a low bioaccumulation potential (Annex IX, adaptation column 2). Considering its high water solubility, NaOH should not bioconcentrate in organisms. Log Pow is not applicable for an inorganic compound that dissociates (EU RAR 2007, section 3.1.1 page 19 and section 3.1.3.4, page 26). Furthermore, sodium is an element present in nature prevalent in the environment and to which organisms are regularly exposed, for which they have a certain ability to regulate the concentration of the organism.

Tetrasodium ethylene diamine tetraacetate:

Not bioaccumulative

12.4. Mobility in soil

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Related to contained substances:

Sodium hydroxide:

According to the REACH regulation, it is not necessary to conduct an adsorption / desorption study if, based on the physicochemical properties, the substance can be expected to have a low adsorption potential (Annex VIII, adaptation column 2).

Considering its high water solubility, NaOH should not bioconcentrate in organisms. The high water solubility and low vapor pressure indicate that NaOH will be found primarily in the aquatic environment.

The 73% aqueous NaOH solution at room temperature is a highly viscous gelatinous material and without additional dilution (precipitation), it is not expected to infiltrate the soil to any significant extent. The 50% aqueous NaOH solution is liquid and is expected to infiltrate the soil to a measurable extent. As a dilution of NaOH

increases, increases its speed of movement through the ground. During movement through the ground, some ion exchange will occur.

Also, part of the hydroxide can remain in the aqueous phase and will move down through the soil in the direction of groundwater flow (EU RAR 2007, section 3.1.3, page 24).

Tetrasodium ethylene diamine tetraacetate:

Due to the ionic structure, no adsorption on the organic fraction of the soil or sediments is expected for EDTA (acid form) and its salt. The test substance will not evaporate from the surface of the water in the atmosphere. The test substance will preferably be distributed in the compartment water.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB ingredient is present

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No adverse effects

Regulation (EC) No 2006/907 - 2004/648

The (l) surfactant (s) content (s) in this preparation complies (comply) with (i) the biodegradability criteria as laid down in Regulation CE/648/2004 on detergents. All data are held at the disposal of the competent authorities of Member States and will be provided, at their direct request or at the request of a detergent manufacturer, to those authorities.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Operate according to local or national regulations

SECTION 14. Transport information

14.1. UN number or ID number

ADR/RID/IMDG/ICAO-IATA: 3266

If subject to the following characteristics is ADR exempt:

Combination packagings: per inner packaging 1 L per package 30 Kg

Inner packaging placed in shrink-wrapped or stretch-wrapped trays: per inner packaging 1 L per package 20 Kg



14.2. UN proper shipping name

ADR/RID/IMDG: LIQUIDO INORGANICO CORROSIVO, BASICO, N.A.S. (Idrossido di sodio in miscela)

ADR/RID/IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide in mixture)

ICAO-IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide in mixture)

14.3. Transport hazard class(es)

ADR/RID/IMDG/ICAO-IATA: Class : 8
ADR/RID/IMDG/ICAO-IATA: Label : 8
ADR: Tunnel restriction code : E
ADR/RID/IMDG/ICAO-IATA: Limited quantities : 1 L
IMDG - EmS : F-A, S-B

14.4. Packing group

ADR/RID/IMDG/ICAO-IATA: II

14.5. Environmental hazards

ADR/RID/ICAO-IATA: Product is not environmentally hazardous
IMDG: Marine polluting agent : No

14.6. Special precautions for user

The transport must be carried out by authorized vehicles for the transport of dangerous goods in accordance with the requirements of the applicable Edition of the agreement A.D.R. and national provisions. The transport must be carried out in the original packaging and in packages that are made from materials resistant to content and not likely to generate with this dangerous reactions. The process of loading and unloading of dangerous goods have received adequate training on the risks presented by prepared and on possible procedures to be taken in the event of emergency situations

14.7. Maritime transport in bulk according to IMO instruments

Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

Restrictions relating to the product or contained substances (All. XVII Reg. EC 1907/2006): not applicable
Substances in Candidate List (art. 59 Reg. EC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.
Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.
Reg. EC 648/04: see 2.2
Reg. (EU) n. 1169/2011: see 2.2
Reg (UE) 528/2012: see.to 2.2
REGULATION (EU) No 1357/2014 - waste: HP8 - Corrosive

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Points modified compared to previous release: 2.1. Classification of the substance or mixture 3.2 information on ingredients 4.3. Indication of any immediate medical attention and special treatment needed 7.3. Specific end use(s), 8.1. Control parameters, 8.2. Exposure controls, 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008, 12.1. Toxicity, 12.2. Persistence and degradability, 12.3. Bioaccumulative potential, 12.4. Mobility in soil, 12.6. Endocrine disrupting properties, 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Description of hazard statements set out in paragraph 3

H290 = May be corrosive to metals.

H314 = Causes severe skin burns and eye damage.

H318 = Causes serious eye damage.

H302 = Harmful if swallowed.

H332 = Harmful if inhaled.

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

Classification based on data of all mixture components

Main normative references:

Reg. (CE) n. 1907 del 18/12/06 REACH (Registration, Evaluation and Authorisation of CHemicals) et seq.

Reg. (CE) 1272/2008 CLP (Classification Labelling and Packaging) et seq.

Regulation (EC) n. 648 of 31/03/04 (on detergents) et seq.

Regulation (UE) n. 1169/2011 (on the provision of food information to consumers)

Directive 2012/18/EU (on the control of major-accident hazards involving dangerous substances) et seq.

Regulation (UE) 528/2012 (Biocides) et seq.

Procedure used to classify under CLP mixture (Reg . EC 1272/2008):

Physical hazards: On the basis of experimental data

H314 Skin. Corr. 1A: On the basis of experimental data / Calculation Method

Other hazards: Calculation Method

Training required: This document must be submitted to the employer to determine the possible need for appropriate training for workers to ensure protection of human health and the environment.

n.a.: not applicable

n.d.: not available

ADR: Accord européen relative au transport International des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

ATE: Acute Toxicity Estimati

BFC: BioconCentration Factor

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstract Service number

CAP: Centre AntiPoison

CE/EC number EINECS (European Inventory of existing Commercial Substances) e ELINCS (European List of notified Chemical Substances)

CL50/LC50: Lethal Concentration 50

DL50/LD50: Lethal Dose 50

COD: Chemical Oxygen Demand

DNEL: Derived No Effect Level

EC50: half maximal Effective Concentration
ERC: Environment Release Classes
EU/UE: European Union
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods code
Kow: Octanol water partition coefficient
NOEC: No Observed Effect Concentration
OEL: Occupational Exposure Limit
PBT: Persistent Bioaccumulative and Toxic
PC: Product Categories
PNEC: Predicted No Effect Concentration
PROC: Process Categories
RID: Règlement concernant le transport International ferroviaire des marchandises dangereuses (Regulations concerning International rail transport of dangerous goods)
STOT: Target Organ Systemic Toxicity
STOT (RE): Repeated Exposure
STOT (SE): Single Exposure
STP: Sewage Treatment Plants
SU: Sector of Use
SVCH: Substance of Very High Concern
TLV: Threshold Limit Value
vPvB: Very Persistent Very Bioaccumulative

References and Sources:

- ECHA Registered Substances:
- <https://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>
- SDS supplier
- GESTIS DNEL Database: <http://www.dguv.de/ifa/gestis/gestis-dnel-datenbank/index-2.jsp>
- GESTIS International Limit Value: <http://limitvalue.ifa.dguv.de>

This msds was made in good faith by AEB technical Office on the basis of the information available at the date of the last revision. The person in charge must regularly inform the employees about the specific risks they encounter when using this substance/product. The information contained here relate only to the substance/the preparation indicated and may not apply if the product is used improperly or in combination with others. Nothing contained herein shall be construed as a guarantee, either express or implied. It is the responsibility of the user to ensure the opportunities and completeness of the information contained herein for their own particular use.

*** this tab annuls and replaces any previous edition. (IIXX)

Changes to the previous edition: issued in accordin with Reg. (EU) 878/20

SUMI**Safe Use of Mixtures Information****AISE_SUMI_IS_4_2***Version 1.1, August 2018****Industrial uses; Automated task; Semi-automated task; Dedicated equipment***

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

The SUMI applies to industrial uses where products are used in closed process where opportunity for exposure arises. This Safe Use Information is based on the **AISE_SWED_IS_4_2**.

Operational Conditions

Maximum duration	480 minutes per day.
Range of application / Process conditions	Indoor Use.
	Process carried out at room temperature.
	In case of dilution, tap water at a maximum temperature of 45°C is used.
Air exchange rate	Provide a basic standard of general ventilation (1 to 3 air changes per hour). No LEV required.

Risk Management Measures

Measures related to personal protective equipment (PPE), hygiene and health evaluation	Wear suitable gloves. See section 8 of the SDS of this product for specifications.
	 Training of workers in relation to proper use and maintenance of PPEs must be ensured.
Environmental measures	Prevent that undiluted product reaches surface waters.
	If appropriate AISE SPERC 8a.1.a.v2 may apply: wide dispersive use resulting in release to municipal sewage treatment plant.

Additional good practice advice

<p>Don't eat or drink. Don't smoke. Don't use in proximity of open flame.</p>	
<p>Wash hands after use. Avoid contact with damaged skin. Do not mix with other products.</p>	
<p>Spillage instructions</p>	<p>Dilute with fresh water and mop up.</p>
<p>Hygiene practices</p>	<p>Follow the product instructions as specified on the label or in the product information sheet and use good occupational hygiene practices as specified in Section 7 of the product SDS.</p>

Additional information depending on product composition

The label and (when required) the Safety Data Sheet contain additional, product specific information crucial for working safely with mixtures. Please refer to the product label and SDS for information including, but not limited to: product hazard classification, potentially allergenic fragrances, notable ingredients and threshold limit values (when available).

Disclaimer

This is a document for communicating generic conditions of safe use of a product. It is the responsibility of the formulator to link this SUMI to the SDS of a specific product that he is selling.

If a SUMI (or associated SWED) code is mentioned in the SDS of a product, the formulator of that product declares that all substances in the mixture are present in such concentration, that the use of the product within the conditions of the SUMI is safe. When available, this safe use is ensured by evaluating the results of the chemical safety assessments as performed by the raw material suppliers. When no chemical safety assessment has been carried out by the supplier for an ingredient that contributes to the classification of the mixture, the formulator has performed a safety assessment himself.

Following Occupational Health legislation, the employer of workers that use products that are assessed as safe following SUMI conditions remains responsible for communicating relevant use information to employees. When developing workplace instructions for employees, SUMI Sheets should always be considered in combination with the SDS and the label of the product.

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SUMI**Safe Use of Mixtures Information****AISE_SUMI_IS_8b_1***Version 1.1, August 2018****Transfer and dilution of concentrated product by using dedicated dosing system***

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

This SUMI applies to industrial uses where products are transferred to or diluted in a dedicated dosing system. This Safe Use Information is based on the **AISE_SWED_IS_8b_1_L** and **AISE_SWED_IS_8b_1_S**

Operational Conditions

Maximum duration	60 minutes per day.
Range of application / Process conditions	Indoor Use.
	Process carried out at room temperature.
	In case of dilution, tap water at a maximum temperature of 45°C is used.
Air exchange rate	Provide a basic standard of general ventilation (1 to 3 air changes per hour). No LEV required.

Risk Management Measures

Measures related to personal protective equipment (PPE), hygiene and health evaluation	Wear suitable gloves. See section 8 of the SDS of this product for specifications.
	 Training of workers in relation to proper use and maintenance of PPEs must be ensured.
Environmental measures	Prevent that undiluted product reaches surface waters.
	If appropriate AISE SPERC 8a.1.a.v2 may apply: wide dispersive use resulting in release to municipal sewage treatment plant.

Additional good practice advice

<p>Don't eat or drink. Don't smoke. Don't use in proximity of open flame.</p>	
<p>Wash hands after use. Avoid contact with damaged skin. Do not mix with other products.</p>	
<p>Spillage instructions</p>	<p>Dilute with fresh water and mop up.</p>
<p>Hygiene practices</p>	<p>Follow the product instructions as specified on the label or in the product information sheet and use good occupational hygiene practices as specified in Section 7 of the product SDS.</p>

Additional information depending on product composition

The label and (when required) the Safety Data Sheet contain additional, product specific information crucial for working safely with mixtures. Please refer to the product label and SDS for information including, but not limited to: product hazard classification, potentially allergenic fragrances, notable ingredients and threshold limit values (when available).

Disclaimer

This is a document for communicating generic conditions of safe use of a product. It is the responsibility of the formulator to link this SUMI to the SDS of a specific product that he is selling.

If a SUMI (or associated SWED) code is mentioned in the SDS of a product, the formulator of that product declares that all substances in the mixture are present in such concentration, that the use of the product within the conditions of the SUMI is safe. When available, this safe use is ensured by evaluating the results of the chemical safety assessments as performed by the raw material suppliers. When no chemical safety assessment has been carried out by the supplier for an ingredient that contributes to the classification of the mixture, the formulator has performed a safety assessment himself.

Following Occupational Health legislation, the employer of workers that use products that are assessed as safe following SUMI conditions remains responsible for communicating relevant use information to employees. When developing workplace instructions for employees, SUMI Sheets should always be considered in combination with the SDS and the label of the product.

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SUMI**Safe Use of Mixtures Information****AISE_SUMI_IS_13_3_G***Version 1.1, August 2018****Industrial uses; Treatment of articles by dipping or pouring***

This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

This SUMI applies to industrial uses where articles are treated by dipping or pouring. This Safe Use Information is based on the **AISE_SWED_IS_13_3**.

Operational Conditions

Maximum duration	480 minutes per day.
Range of application / Process conditions	Indoor Use. Process carried out at room temperature. In case of dilution, tap water at a maximum temperature of 45°C is used.
Air exchange rate	Provide a basic standard of general ventilation (1 to 3 air changes per hour). No LEV required.

Risk Management Measures

Measures related to personal protective equipment (PPE), hygiene and health evaluation	Wear suitable gloves and eye protection. See section 8 of the SDS of this product for specifications.
	 Training of workers in relation to proper use and maintenance of PPEs must be ensured.
Environmental measures	Prevent that undiluted product reaches surface waters.
	If appropriate AISE SPERC 8a.1.a.v2 may apply: wide dispersive use resulting in release to municipal sewage treatment plant.

Additional good practice advice

<p>Don't eat or drink. Don't smoke. Don't use in proximity of open flame.</p>	
<p>Wash hands after use. Avoid contact with damaged skin. Do not mix with other products.</p>	
<p>Spillage instructions</p>	<p>Dilute with fresh water and mop up.</p>
<p>Hygiene practices</p>	<p>Follow the product instructions as specified on the label or in the product information sheet and use good occupational hygiene practices as specified in Section 7 of the product SDS.</p>

Additional information depending on product composition

The label and (when required) the Safety Data Sheet contain additional, product specific information crucial for working safely with mixtures. Please refer to the product label and SDS for information including, but not limited to: product hazard classification, potentially allergenic fragrances, notable ingredients and threshold limit values (when available).

Disclaimer

This is a document for communicating generic conditions of safe use of a product. It is the responsibility of the formulator to link this SUMI to the SDS of a specific product that he is selling.

If a SUMI (or associated SWED) code is mentioned in the SDS of a product, the formulator of that product declares that all substances in the mixture are present in such concentration, that the use of the product within the conditions of the SUMI is safe. When available, this safe use is ensured by evaluating the results of the chemical safety assessments as performed by the raw material suppliers. When no chemical safety assessment has been carried out by the supplier for an ingredient that contributes to the classification of the mixture, the formulator has performed a safety assessment himself.

Following Occupational Health legislation, the employer of workers that use products that are assessed as safe following SUMI conditions remains responsible for communicating relevant use information to employees. When developing workplace instructions for employees, SUMI Sheets should always be considered in combination with the SDS and the label of the product.

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WORKING ISTRUCTION TABLE



This tab provides instructions for appropriate and safe use of products and proper management of emergency situations for cleaning staff/users.

Attached to MSDS rel#6 del 12/09/21

Use description	Use in batch and other process (synthesis) where opportunity for exposure arises [PROC4]; Transfer of substance or mixture (charging and discharging) at dedicated facilities [PROC8b]; Treatment of articles by dipping and pouring [PROC13]
Product name	X5S
Classification of the product (100%)	H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage.
Classification of the diluted product (maximum use concentration)	At maximux concentration of use (3%) the product is classified: H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage.
Handling of the product (100%)	Avoid contact and inhalation of vapors Wear protective gloves/clothing and eye/face protection. At work do not eat or drink.
Handling of the diluted product	Avoid contact and inhalation of vapors Wear protective gloves/clothing and eye/face protection. At work do not eat or drink.
DPI required concentrated product (racking, concentrated use, spillage...)	Chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3), safety glasses (EN 166).
Diluted product	Chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3), safety glasses (EN 166).

In case of emergency (accidents involving exposure to the product)	Immediately inform the customer. Immediately inform the employer. Contact Poisons Centres tel. number in 1.4 section of the MSDS
Accidental release large quantities measures: concentrated product	Wear mask, gloves, glasses and protective clothing (for specifications refer to section 8.2. SDS) Possibly absorb it with inert materia or sucked it. After wiping up, wash with water the area and materials involved
Diluted product	Wear mask, gloves, glasses and protective clothing (for specifications refer to section 8.2. SDS). Wash with water the area and materials involved
Storage of the product	Keep in original container closed tightly. Do not store in open or unlabelled containers. Keep containers upright and safe by avoiding the possibility of falls or collisions. Store in a cool and dry place, away from heat sources and direct exposure to sunlight.
In case of accidents, emergency or fire	Immediately inform the customer. Follow company emergency instruction.