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

1.1. Product identifier

Product name : STARCLEAN
Product code: refer to sales department

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

Oven cleaners
Sectors of use:
Industrial Manufacturing[SU3], Public domain (administration, education, entertainment, services, craftsmen)[SU22]
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 nondedicated facilities[PROC8A], Transfer of substance or mixture (charging and discharging) at dedicated facilities[PROC8B]

Not recommended uses
Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

Distributore esclusivo/Exclusive supplier:
ANGELO PO Grandi Cucine
41012 Carpi (Italy) S/S Romana Sud, 90
Tel. +39.059.639411 - Fax +39.059.642499
e-mail: angelopo@angelopo.it http: www.angelopo.it

1.4. Emergency telephone number

Centralino/Switchboard +39.030.2307.1 - (h 8.30-12.00 13.30-18.00 GMT+1; Lingua/Language: Italiano, English)

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. 1B, 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.
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% non-ionic surfactants, anionic surfactants

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
2-Butoxyethanol	>= 5 < 10%	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319;	603-014-00-0	111-76-2	203-905-0	01-2119475108-36-XXXX

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
		Acute Tox. 4, H332 ATE oral = 1.200,0 mg/kg ATE inhal = 11,0mg/l/4 h				
Sodium hydroxide	>= 3 < 5%	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	01-2119457892-27-XXXX
Sodium etasulfate	>= 1 < 2,5%	Skin Irrit. 2, H315; Eye Dam. 1, H318 Limits: Eye Dam. 1, H318 %C >=20; Eye Irrit. 2, H319 10<= %C <20;		126-92-1	204-812-8	01-2119971586-23-XXXX

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of skin contact: immediately take off contaminated clothing, wash immediately with plenty of water and soap and in case of redness or burns, consult a doctor immediately and / or go to the emergency room. In case of contact with the eyes: rinse with water for an appropriate time and with the eyelids open, then immediately consult an ophthalmologist. Protect the uninjured eye. In case of ingestion: DO NOT induce vomiting. In case of inhalation: take the injured person to fresh air and keep him warm and at rest.

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

Prolonged inhalation can cause a burning sensation, cough, headache, difficulty breathing, nausea and throat pain. Contact with skin produces chemical burns in the skin, with local discomfort or pain, severe redness and swelling, tissue destruction, cracking and ulceration. Contact with eyes can cause redness, pain, severe deep burns and loss of vision. Ingestion can cause severe burns to the lips, mouth, throat and esophagus, with stomach upset and abdominal pain

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

If you feel unwell, see a doctor and if possible show this SDS
Symptomatic treatment

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: must be evaluated based on the surrounding environment. In the event of a large fire, all

extinguishing agents are permitted. 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 the gases produced by the explosion and combustion.

5.3. Advice for firefighters

Use suitable respiratory equipment.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
Leave the area surrounding the spill or release. Do not smoke
Wear mask, gloves and protective clothing.

6.1.2 For emergency responders:
Eliminate all unguarded flames and possible sources of ignition. No smoking.
Privide 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 materia or sucked 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 care. Store in a well-ventilated place away from heat sources, in the original, well-closed containers

Public domain (administration, education, entertainment, services, craftsmen):
Handle with care. Store in a well-ventilated place away from heat sources, in the original, well-closed containers

See the annex exposure scenario.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

==========
Related to contained substances:
2-Butoxyethanol:
Limit Value – Eight hours
(ppm)/(mg/m3)
Australia: 20/96.9
Austria: 20/98
Belgium: 20/98
Canada – Ontario: 20/x
Canada – Québec: 20/97
Denmark:20/98
European Union: 20/98
Finland: 20/98
France: 10/49
Germany(AGS):10/49
Germany (DFG): 10(1)/49
Hungary: x/98
Ireland: 20/98
Italy: 20/98
Japan: 25
Latvia: 20/98
New Zealand: 25/121
Poland: x/98
Singapore: 25/121
South Korea: 20/97
Spain: 20/98
Sweden: 10/50
Switzerland: 10/49
The Netherlands: x/100
Turkey: 20/98

USA – NIOSH: 5/24
USA-OSHA: 50/240
United Kingdom: 25/123

Limit Value – Short term
(ppm)/(mg/m3)
Australia: 50/242
Austria: 40/200
Belgium: 50/246
Canada – Ontario: x/x
Canada – Québec: x/x
Denmark:40/196
European Union: 50/246
Finland: 50(1)/250(1)
France: 50/246
Germany(AGS):40(1)/196(1)
Germany (DFG): 20(2)/98
Hungary: x/246
Ireland: 50(1)/246(1)
Italy: 50/246
Japan: x/x
Latvia: 50(1)/246(1)
New Zealand: 25/121
Poland: x/200
Singapore: x/x
South Korea: x/x
Spain: 50/245
Sweden: 20(1)/100(1)
Switzerland: 20/98
The Netherlands: x/246
Turkey: 50(1)/246(1)
USA – NIOSH: x/x
USA-OSHA: x/x
United Kingdom: 50/246

Remarks
European Union Bold-type: Indicative Occupational Exposure Limit Values [2,3] and Limit Values for Occupational Exposure [4] ~ (for references see bibliography)
Finland (1) 15 minutes average value
France Bold type: Restrictive statutory limit values
Germany (AGS) (1) 15 minutes average value
Germany (DFG) (1) MAK value for the sum of the concentration of 2 – butoxyethanol and 2-butoxyehthylacetate (2) 15 minutes average value
Irealand (1) 15 minutes reference period
Italy skin
Lavia (1) 15 minutes average value
Spain skin
Sweden (1) Short-term value, 15 minutes average value
Turkey (1) 15 minutes average value

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)
Austalia: 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
Romaniax/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) Celling limit value
Canada – Ontario: (1) Celling limit value
Canada – Québec: (1) Celling limit value
Finland: (1) Celling 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) Celling limit value
People's Republic of China: (1) Celling limit value
South Korea: (1) Celling limit value
Romania: (1) 15 minutes average value
Sweden: (1) Inhalable dust (2) Celling limit value
USA – NIOSH: (1) Celling limit value (15 min)
Argentine: CMP-C: 2 mg 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 esposure 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)
Norvay: 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: 2-Butoxyethanol
DNEL
Systemic effects Long term Workers inhalation = 98 (mg/m3)

Systemic effects Long term Workers dermal = 125 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 59 (mg/m3)
Systemic effects Long term Consumers dermal = 75 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 6,3 (mg/kg bw/day)
Systemic effects Short term Workers inhalation = 1091 (mg/m3)
Systemic effects Short term Workers dermal = 89 (mg/kg bw/day)
Systemic effects Short term Consumers inhalation = 426 (mg/m3)
Systemic effects Short term Consumers dermal = 89 (mg/kg bw/day)
Systemic effects Short term Consumers oral = 26,7 (mg/kg bw/day)
Local effects Long term Workers dermal = 75 (mg/kg bw/day)
Local effects Short term Workers inhalation = 246 (mg/m3)
Local effects Short term Consumers inhalation = 147 (mg/m3)
PNEC
Sweet water = 8,8 (mg/l)
sediment Sweet water = 34,6 (mg/kg/sediment)
Sea water = 0,88 (mg/l)
sediment Sea water = 3,46 (mg/kg/sediment)
intermittent emissions = 9,1 (mg/l)
STP = 463 (mg/l)
ground = 2,33 (mg/kg ground)

- 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:
Sodium etasulfate
DNEL
Systemic effects Long term Workers inhalation = 285 (mg/m3)
Systemic effects Long term Workers dermal = 4060 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 85 (mg/m3)
Systemic effects Long term Consumers dermal = 2440 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 24 (mg/kg bw/day)
PNEC
Sweet water = 0,1357 (mg/l)
sediment Sweet water = 1,5 (mg/kg/sediment)
Sea water = 0,15 (mg/l)
sediment Sea water = 0,15 (mg/kg/sediment)
intermittent emissions = 4,83 (mg/l)
STP = 1,35 (mg/l)
ground = 0,22 (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)

Public domain (administration, education, entertainment, services, craftsmen):
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
When handling the pure product, in case of possible splashes, use safety glasses (EN 166).

(b) Skin protection

(i) Hand protection
When handling the pure product or in case of prolonged contact use protective gloves resistant to the products chemicals (EN 374-1 / EN374-2 / EN374-3)

(ii) Other
When handling the pure product, wear full protective clothing (generic workwear / antacid, safety shoes S3-EN ISO 20345) or other protective equipment, according to the instructions of the employer

(c) Respiratory protection
Not necessary for normal use. During manual operations in case of insufficient ventilation and / or from provisions by the employer and / or by evaluations of environmental hygienic investigations, use mask with filters for Universal type ABECK (UNI EN 405)

(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	liquid	
Colour	light red	
Odour	not determined as it is considered not relevant for the characterization of the product	
Odour threshold	not determined as it is considered not relevant for the characterization of the product	
pH	13.0 ± 0.5 (20 ° C)	
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	ASTM D92
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	

Physical and chemical properties	Value	Determination method
Vapour density	not determined as it is considered not relevant for the characterization of the product	
Relative density	1.06 ± 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

Alkaline product
May be corrosive to metals.

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

Possible dangerous reaction with acids.

10.4. Conditions to avoid

==========
Related to contained substances:
Sodium hydroxide:
Absorbs carbon dioxide when exposed to air.

10.5. Incompatible materials

Acids

10.6. Hazardous decomposition products

Thermally stable product. In the event of a fire, dangerous oxides may be formed

SECTION 11. Toxicological information

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

ATE(mix) oral = 24.000,0 mg/kg
ATE(mix) inhal = 220,0 mg/l/4 h

(a) acute toxicity: 2-Butoxyethanol: Ingestion - LD50 rat (mg / kg / 24h bw): 1200
Skin contact - LC50 guinea pig (mg / kg / 24h bw):> 2000 OECD 402
CL50 guinea pig (inhalation):> 400 ppm 7 h
Inhalation - LD50 rat (mg / l / 4h): 11 (vapors)
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
Sodium etasulfate: Ingestion - LD50 rat (mg / kg / 24h bw): experimental / calculated data - 2.840 mg / kg (similar to OECD Guideline 401)
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw):> 2.000 mg / kg (OECD - guideline 402). The indications are derived from substances / products of similar composition or structure. Inhalation - LD50 rat (mg / l / 4h): nd
(b) skincorrosion/irritation: Corrosive product: causes severe skin burns and eye damage.
2-Butoxyethanol: Non-corrosive
Sodium hydroxide: Corrosive
Sodium etasulfate: Non-corrosive
2-Butoxyethanol: Causes serious eye irritation
Sodium hydroxide: Irritating
Sodium etasulfate: Irritating
(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.
2-Butoxyethanol: Non-corrosive
Sodium hydroxide: Corrosive
Sodium etasulfate: Corrosive
2-Butoxyethanol: Causes skin irritation.
Sodium hydroxide: Irritating
Sodium etasulfate: Irritating
(d) respiratoryorskinsensitisation: 2-Butoxyethanol: Sensitization: (Guinea Pig): negative
Sodium hydroxide: Not sensitizing
Sodium etasulfate: Non-sensitizing
(e) germ cell mutagenicity: 2-Butoxyethanol: Non-mutagenic
Sodium hydroxide: NaOH did not induce mutagenicity in in vitro and in vivo studies (EU RAR, 2007; section 4.1.2.7, page 73).
Sodium etasulfate: Non-mutagenic
(f) carcinogenicity: 2-Butoxyethanol: Non-carcinogenic
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.

Sodium etasulfate: Non-carcinogenic
(g) eproductivetoxicity: 2-Butoxyethanol: Non-toxic for reproduction Route of exposure: Oral Species: Rabbit Effective dose: 720 mg / kg bw / day
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.
Sodium etasulfate: Non-toxic for reproduction
(h) specific target organ toxicity (STOT) single exposure: 2-Butoxyethanol: Not available
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
Sodium etasulfate: Not available
(i) specific target organ toxicity (STOT) repeated exposure2-Butoxyethanol: Subacute oral toxicity
Route of exposure: Oral route
Species: Rat (male) Effective dose: <69 mg / kg dw Exposure time: 90 days Method: OECD 408
Species: Rat (female) Effective dose: <82 mg / kg dw Exposure time: 90 days Method: OECD 408

Subacute skin toxicity
Route of exposure: Dermal
Species: Rabbit Effective dose:> 150 mg / kg bw / day Exposure time: 90 days Method: OECD 411

Subacute inhalation toxicity
Route of exposure: Inhalation
Species: Rat Effective dose: 152 mg / m3
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).
Sodium etasulfate: Evaluation of toxicity following repeated administration: the product has not been tested. The indications are derived from substances / products of similar composition or structure. In tests on animals a certain adaptability has been observed following repeated exposure. The absorption of the substance by mouth in high concentrations can damage the organs.
(j) aspiration hazard: 2-Butoxyethanol: Not available
Sodium hydroxide: Not available
Sodium etasulfate: Not available

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

==========
Related to contained substances:
2-Butoxyethanol:
Acute toxicity - fish (Oncorhynchus mykiss) LC50 (mg / l / 96h): 1474
Acute toxicity - crustaceans (Daphnia magna) EC50 (mg / l / 48h): 1550
Acute algae toxicity (Pseudokirchneriella subcapitata) ErC50 (mg / l / 72 -96h): 911
Chronic toxicity - fish (Brachydanio rerio) NOEC mg / l:> 100
Chronic toxicity - crustaceans NOEC mg / l: 100
C(E)L50 (mg/l) = 1474

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

Sodium etasulfate:
Acute toxicity-fish LC50 (mg/l/83d): > 100
Acute toxicity-crustacea EC50 (mg/l/48 h): > 100
Acute algae toxicity ErC50 (mg/l/72-69): > 100
Chronic toxicity-fish NOEC (mg/l): > 1
Chronic toxicity-crustaceans NOEC (mg/l): > 1

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

12.2. Persistence and degradability

==========
Related to contained substances:
2-Butoxyethanol:
Easily biodegradable 90% CO2 formation of the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69 / EEC, C.4-C) (aerobic, activated sludge)

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

Sodium etasulfate:
Readily biodegradable

12.3. Bioaccumulative potential

==========
Related to contained substances:
2-Butoxyethanol:
Less bioaccumulable

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.

Sodium etasulfate:
Not bioaccumulative

12.4. Mobility in soil

==========
Related to contained substances:
2-Butoxyethanol:
High mobility potential

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).

Sodium etasulfate:
Possible absorption into the soil solid phase

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 (I) 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 skrink-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. (Sodio idrossido 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 ≥ 0.1%.
Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC in a proportion ≥ 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, 12.6. 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
H302 = Harmful if swallowed.
H315 = Causes skin irritation.
H319 = Causes serious eye irritation.
H332 = Harmful if inhaled.
H290 = May be corrosive to metals.
H314 = Causes severe skin burns and eye damage.
H318 = Causes serious eye damage.

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. 1b: On the basis of experimental data / 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 europèen relative au transport International des merchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE: Acute Toxicity Estimat
BFC: BioconCentration Factor
BOD: Biochemical Oxigen 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: Enviroment 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 concernent le transport International ferroviaire des merchandises 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 according 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

Don't eat or drink. **Don't smoke.** **Don't use in proximity of open flame.**	
Wash hands after use. **Avoid contact with damaged skin.** **Do not mix with other products.**	
Spillage instructions	Dilute with fresh water and mop up.
Hygiene practices	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.

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

Don't eat or drink. **Don't smoke.** **Don't use in proximity of open flame.**	
Wash hands after use. **Avoid contact with damaged skin.** **Do not mix with other products.**	
Spillage instructions	Dilute with fresh water and mop up.
Hygiene practices	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.

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).

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_4_1

Version 1.1, August 2018

Professional uses; Semi-closed 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

The SUMI applies to professional uses where products are used in closed process where opportunity for exposure arises. This Safe Use Information is based on the **AISE_SWED_PW_4_1**.

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	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

Don't eat or drink. **Don't smoke.** **Don't use in proximity of open flame.**	
Wash hands after use. **Avoid contact with damaged skin.** **Do not mix with other products.**	
Spillage instructions	Dilute with fresh water and mop up.
Hygiene practices	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.

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).

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_8a_1_G

Version 1.1, August 2018

Transfer of product to a container (bottle/bucket/machine)

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 professional uses where the product is transferred to or diluted in a container, such as a dispenser, bottle or bucket. Safe Use Information is based on the **AISE_SWED_PW_8a_1_L** and **AISE_SWED_PW_8a_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 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

Don't eat or drink. **Don't smoke.** **Don't use in proximity of open flame.**	
Wash hands after use. **Avoid contact with damaged skin.** **Do not mix with other products.**	
Spillage instructions	Dilute with fresh water and mop up.
Hygiene practices	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.

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).

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