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

1.1. Product identifier

Product name : MEMBRAN Clor
Product code: refer to sales department

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

Chloroactive alkaline detergent
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

AEB SpA - Via Vittorio Arici 104 S.Polo - 25134 Brescia (BS) Italy
Tel. +39.030.2307.1 Fax +39.030.2307281
E-mail: info@aeb-group.com - Internet: www.aeb-group.com
E-mail tecnico competente/technical dept.: sds@aeb-group.com

AEB USA
111 N Cluff Avenue
Lodi CA 95240 (USA)
Tel: +1 2096258139 Fax: +1 2092248953
Email: info@aebusa.com - Internet: www.aeb-group.com

AEB AFRICA (PTY) LTD
18 Track Crescent, Cor. Station Road
Montague Gardens 7441
Cape Town (South Africa)
Tel.: +27 215512700 - Fax: +27 (0) 215511919
Email: info@aeb.co.za - Internet: www.aeb-group.com

AEB OCEANIA PTY LTD
178A Wakaden Street
Griffith NSW 2680
T: 1300 704 971
Email: aeboceania@aeb-group.com - Internet: www.aeb-group.com

Produced by
AEB SpA
Via Vittorio Arici 104 S. Polo
25134 Brescia

1.4. Emergency telephone number

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

AEB USA
Switchboard: +1 2096258139 (GMT -8; Language: English)

AEB AFRICA (PTY) LTD
Switchboard: +27 215512700 (GMT +1; Language: English, Afrikaans)

AEB OCEANIA PTY LTD
Switchboard: +61 1300 704 971 (GMT +9; Language: 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, GHS09

Hazard Class and Category Code(s):
Met. Corr. 1, Skin Corr. 1, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 2

Hazard statement Code(s):
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H400 - Very toxic to aquatic life. (Acute toxicity M-factor = 1)
H411 - Toxic to aquatic life with long lasting effects.

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.
The product is dangerous for the environment as it is very toxic to aquatic organisms
The product is dangerous to the environment as it is toxic to aquatic life with long lasting effects

2.2. Label elements

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

Pictogram, Signal Word Code(s):
GHS05, GHS09 - Danger

Hazard statement Code(s):
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H410 - Very toxic to aquatic life with long lasting effects.

Supplemental Hazard statement Code(s):
EUH031 - Contact with acids liberates toxic gas (Cl2)

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.
Disposal
P501 - Dispose of contents/container to local/regional/national/international regulations

Contains:
sodium hydroxide, sodium hypochlorite

Contains (Reg.EC 648/2004):
5% < 15% chlorine-based bleaching agents,< 5% 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 hypochloriteB	>= 5 < 10%	EUH031; Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Limits: , EUH031 %C >=5; Acute toxicity M-factor = 10	017-011-00-1	7681-52-9	231-668-3	01-2119488154-34-XXXX
Sodium hydroxide	>= 1 < 2,5%	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,	011-002-00-6	1310-73-2	215-185-5	01-2119457892-27-XXXX

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
		H319 0,5<= %C <2; Eye Dam. 1, H318 %C >=2; Skin Irrit. 2, H315 %C >=0,5;				

SECTION 4. First aid measures

4.1. Description of first aid measures

In case of ingestion, rinse the mouth with water, do not induce vomiting. Call a doctor immediately.
In case of inhalation: ventilate the environment. Immediately remove the patient from the contaminated environment and keep it at rest in a well ventilated area.
In case of illness, call a doctor immediately.
In case of skin contact: remove contaminated clothing immediately, wash immediately and thoroughly with water. In case of burns, call a doctor immediately.
In case of eye contact: wash immediately and abundantly with running water, with open eyelids, for at least 10 minutes; therefore protect the eyes with dry sterile gauze. Immediately call for a medical examination. Do not use eye drops or ointments of any kind before the visit or advice of the eye doctor.

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

Ingestion may cause chemical burns in the mouth and throat.
In contact with the skin can cause burns. In contact with eyes it causes very strong irritation, including redness and tearing.
Inhalation can cause respiratory failure of an asthmatic nature; irritation of the mucous membranes and respiratory tract can cause nausea and difficulty in breathing.

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

In case of accident or if you feel unwell, consult a doctor immediately (if possible show the instructions for use or the safety data sheet).
Treatment: The severity of injuries and the prognosis of intoxication are directly dependent on the concentration and duration of exposure.
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:
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.
In residential areas do not use on large surfaces.
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 (7-30 ° C) and in the original, well-closed containers

Manufacture of food products:
Handle with care. Store in a well-ventilated place away from heat sources (7-30 ° C) and 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:
Sodium hypochlorite:
Substance: Chlorine (CAS 7782-50-0)

Limit value - Eight hours
(ppm)/(mg/m³)

Austria: 0,5/1,5
Canada – Ontario: 0,5/-
Canada - Québec: 0,5/1,5
Denmark: 0,5/1,5
Germany (AGS): 0,5/1,5
Germany (DFG): 0,5/1,5
Israel: 0,5/1,5
Japan: 0,5/x
Japan - JSOH: 0,5(1)/1,5(1)
Latvia: 0,3/1
New Zealand: 0,5/1,5
Poland: x/0,7
Singapore: 0,5/1,5
South Korea: 0,5/1,5
Switzerland: 0,5/1,5

Limit value - Short term
(ppm)/(mg/m³)

Australia: 1(1)/3(1)
Austria: 0,5/1,5
Belgium: 0,5/1,5
Canada – Ontario: 1/-
Canada - Québec: 1/2,9
Denmark: 1/3
European Union: 0,5(1)/1,5(1)
Finland: 0,5(1)/1,5(1)
France: 0,5/1,5
Germany (AGS): 0,5(1)/1,5(1)
Germany (DFG): 0,5/1,5
Hungary: x/1,5
Italy: 0,5/1,5

Latvia: 0,5(1)/1,5(1)
New Zealand: 1/2,9
People's Republic of China: x/1(1)
Poland: x/1,5
Romania: 0,5(1)/1,5(1)
Singapore: 1/2,9
South Korea: 1/3
Spain: 0,5/1,5
Sweden: 0,5(1)/1,5(1)
Switzerland: 0,5/1,5
The Netherlands: x/1,5
Turkey: 0,5(1)/1,5(1)
USA-NIOSH: 0,5(1)/1,42(1)
USA-OSHA: 1(1)/3(1)
United Kingdom: 0,5/1,5

Remarks
Australia - People's Republic of China - USA-NIOSH: 1) Ceiling limit value
European Union: Bold-type: Indicative Occupational Exposure Limit Values and Limit Values for Occupational Exposure Binding Occupational Exposure Limit Value - BOELV ~ (1) 15 minutes average value (for references see bibliography)
Finland - Germany (AGS) - Latvia- Romania - Turkey: (1) 15 minutes average value
France: Bold type: Restrictive statutory limit values
Germany (DFG): STV 15 minutes average value
Ireland: (1) 15 minutes reference period
Japan – JSOH: (1) Occupational exposure limit ceiling: Reference value to the maximal exposure concentration of the substance during a working day
Sweden: (1) Short-term limit 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: Sodium hypochlorite
DNEL
Systemic effects Long term Workers inhalation = 1,55 (mg/m3)
Systemic effects Long term Consumers inhalation = 1,55 (mg/m3)
Systemic effects Short term Workers inhalation = 3,1 (mg/m3)
Systemic effects Short term Consumers inhalation = 3,1 (mg/m3)
Local effects Long term Workers inhalation = 1,55 (mg/m3)
Local effects Long term Consumers inhalation = 1,55 (mg/m3)
Local effects Short term Workers inhalation = 3,1 (mg/m3)
Local effects Short term Consumers inhalation = 3,1 (mg/m3)
PNEC
Sweet water = 0,00021 (mg/l)
Sea water = 0,000042 (mg/l)
intermittent emissions = 0,00026 (mg/l)
STP = 0,03 (mg/l)

- 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)

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
Safety goggles with side protection for chemicals (EN166).

(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
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 needed for normal use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. During manual operations in case of insufficient ventilation, use mask with gas filters and inorganic vapors - Grey , Class 3 , B (EN 405) unless otherwise provided by the employer and / or assessments of environmental investigations hygienistic

(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	clear liquid	
Colour	yellow	
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	> 12 (20 ° C) -> 12 (20 ° C sol 1%)	
Melting point/freezing point	not determined as considered not relevant for the characterization of the product	
Initial boiling point and boiling range	not determined as considered not relevant for the characterization of the product	

Physical and chemical properties	Value	Determination method
Flash point	not determined as considered not relevant for the characterization of the product	
Evaporation rate	not determined as considered not relevant for the characterization of the product	
Flammability (solid, gas)	not determined as considered not relevant for the characterization of the product	
Upper/lower flammability or explosive limits	not determined as considered not relevant for the characterization of the product	
Vapour pressure	not determined as considered not relevant for the characterization of the product	
Vapour density	not determined as considered not relevant for the characterization of the product	
Relative density	1.20 ± 0.05 (20 ° C)	
Solubility	in water	
Water solubility	in all proportions	
Partition coefficient: n-octanol/water	not determined as considered not relevant for the characterization of the product	
Auto-ignition temperature	not determined as considered not relevant for the characterization of the product	
Decomposition temperature	not determined as considered not relevant for the characterization of the product	
Viscosity	not determined as considered not relevant for the characterization of the product	
Explosive properties	not determined as considered not relevant for the characterization of the product	
Oxidising properties	not determined as considered not relevant for the characterization of the product	

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

Mixture containing sodium hypochlorite

10.2. Chemical stability

Stable in the indicated conditions of use and storage

10.3. Possibility of hazardous reactions

exothermic reaction with acids.

10.4. Conditions to avoid

Light, heat.

10.5. Incompatible materials

Light and / or colored metals. Acids.

10.6. Hazardous decomposition products

Toxic gas (chlorine)

SECTION 11. Toxicological information

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

ATE(mix) oral = ∞
ATE(mix) dermal = ∞
ATE(mix) inhal = ∞

(a) acute toxicity: Sodium hypochlorite: Ingestion - LD50 rat (mg / kg / 24h bw):> 5000
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw):> 20000
Inhalation - LD50 rat (mg / l / 4h):> 10, 5
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
(b) skincorrosion/irritation: Corrosive product: causes severe skin burns and eye damage.
Sodium hypochlorite: Corrosive
Sodium hydroxide: Corrosive
Sodium hypochlorite: Irritating
Sodium hydroxide: 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.
Sodium hypochlorite: Corrosive
Sodium hydroxide: Corrosive
Sodium hypochlorite: Irritating
Sodium hydroxide: Irritating
(d) respiratoryorskinsensitisation: Sodium hypochlorite: Not sensitizing
Sodium hydroxide: Not sensitizing
(e) germ cell mutagenicity: Sodium hypochlorite: Not 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).
(f) carcinogenicity: Sodium hypochlorite: Not 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.
(g) eproductivetoxicity: Sodium hypochlorite: Non-toxic for reproduction
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.
(h) specific target organ toxicity (STOT) single exposure: Sodium hypochlorite: It can be irritating to the respiratory tract
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
(i) specific target organ toxicity (STOT) repeated exposureSodium hypochlorite: Not classified
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).
(j) aspiration hazard: Sodium hypochlorite: Not available
Sodium hydroxide: Not available

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

==========
Related to contained substances:
Sodium hypochlorite:
cute toxicity - LC50 freshwater fish (mg / l / 96h): 0.060
Acute toxicity - LC50 seawater fish (mg / l / 96h): 0.032

Acute toxicity - Daphnie EC50 (mg / l / 48h): 0.048
Acute toxicity - Daphnia Magna, fresh water EC50 (mg / l / 48h): 0.141
Acute toxicity - Ceriodaphnia dubia, fresh water EC50 (mg / l / 48h): 0.035
Acute toxicity - Cassostrea Virginica, sea water EC50 (mg / l / 48h): 0.026

Acute toxicity ErC50 algae (mg / l / 72-96h): 0.0183
Acute toxicity - Pseudokirchnerella subcapitata EC50 (mg / l / 96h): 0.04
Acute toxicity - Myriophyllum spicatum, fresh water EC50 (mg / l / 96h): 0.1

Chronic toxicity - fish, sea water NOEC 28 die (mg / l): 0.04
Chronic toxicity - crustaceans NOEC 7 die (mg / l): 0,007 (oyster)
Chronic toxicity Pseudokirchnerella subcapitata ErC10 (mg / l): 0.03
Chronic toxicity Pseudokirchnerella subcapitata NOEC (mg / l): 0.017
Chronic toxicity Periphyton algae, fresh water, NOEC 7 die (mg / l): 0.0021

Toxicity, sediment compartment: not classified
Toxicity of the terrestrial compartment: not calssified
C(E)L50 (mg/l) = 0,06 Acute toxicity M-factor = 10

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

The product is dangerous for the environment as it is very toxic to aquatic organisms following acute exposure.
The product is dangerous for the environment as it is toxic to aquatic organisms following acute exposure.

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

12.2. Persistence and degradability

==========
Related to contained substances:
Sodium hypochlorite:
Not applicable. It is a strong oxidant. Reacts with organic substances of soil and sediment degrading rapidly.

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

12.3. Bioaccumulative potential

==========
Related to contained substances:
Sodium hypochlorite:
Non-bioaccumulative
LogP (calculated) = -3.42

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.

12.4. Mobility in soil

==========
Related to contained substances:
Sodium hypochlorite:
Mobile in soil and sediments

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).

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. Send to authorized discharge plants or for incineration under controlled conditions. Operate according to local and National rules in force

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. (Idrossido di sodio e Sodio ipoclorito in miscela)
ADR/RID/IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide and Sodium hypochlorite in mixture)
ICAO-IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide and Sodium hypochlorite in mixture)

14.3. Transport hazard class(es)

ADR/RID/IMDG/ICAO-IATA: Class : 8
ADR/RID/IMDG/ICAO-IATA: Label : 8+ENVIRONMENTALLY HAZARDOUS
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 environmentally hazardous
IMDG: Marine polluting agent : Yes

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
Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC
Reg. EC 648/04: see 2.2
Reg. (EU) n. 1169/2011: see 2.2
Reg (UE) 528/2012: see.to 2.2

Seveso category:
E1 - ENVIRONMENTAL HAZARDS

REGULATION (EU) No 1357/2014 - waste:
HP8 - Corrosive
HP14 - Ecotoxic

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: 1.2. Relevant identified uses of the substance or mixture and uses advised against, 2.2. Label elements 3.2 Mixtures, 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, 10.3. Possibility of hazardous reactions, 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, 12.5. Results of PBT and vPvB assessment, 12.6. Endocrine disrupting properties, 14.2. UN proper shipping name

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.
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.

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. 1: 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 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: sec 2,3,4,7,8,10,11,12,14 - exposure scenarios- Working istruction table- issued in accordin to Reg. UE 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).

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

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).

WORKING ISTRUCTION TABLE

IMPROVEMENT THROUGH BIOTECHNOLOGY

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#8 05/20/21

Use description	Use in batch and other process (syn- thesis) where opportunity for exposure arises [PROC4], ITransfer of substance or mixture (charging and discharging) at dedicated facilities [PROC8B], Treatment of articles by dipping and pouring [PROC13]
Product name	**MEMBRAN CLOR**
Classification of the product (100%)	H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H400 - Very toxic to aquatic life H411 - Toxic to aquatic life with long lasting effects. EUH031 - Contact with acids liberates toxic gas (Cl2)
Classification of the diluted product (maximum use concentration)	At maximux concentration of use (1%, tq) 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).
Diluited 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 gloves, mask 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
Diluited product	Wear gloves 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.