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

1.1. Product identifier

Product name : REMOVIL K
Product code: refer to sales department

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

Descaling alkaline detergent
Sectors of use:
Industrial Manufacturing[SU3]
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
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Lodi CA 95240 (USA)
Tel: +1 2096258139 Fax: +1 2092248953
Email: info@aebusa.com - Internet: www.aeb-group.com

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Tel.: +27 215512700 - Fax: +27 (0) 215511919
Email: info@aeb.co.za - Internet: www.aeb-group.com

AEB OCEANIA PTY LTD
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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, GHS07

Hazard Class and Category Code(s):
Met. Corr. 1, Acute Tox. 4, Skin Corr. 1, Eye Dam. 1

Hazard statement Code(s):
H290 - May be corrosive to metals.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.

The product can be corrosive to metals
Harmful product: do not ingest
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, GHS07 - Danger

Hazard statement Code(s):
H290 - May be corrosive to metals.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.

Supplemental Hazard statement Code(s):
not applicable

Precautionary statements:
Prevention
P260 - Do not breathe dust.
P280 - Wear protective gloves/clothing and eye/face protection.
Response
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Contains:
Potassium hydroxide, Sodium hydroxide

Contains (Reg.EC 648/2004):
5% < 15% phosphates,< 5% non-ionic surfactants

2.3. Other hazards

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

The use of this chemical agent involves the obligation of "risk assessment" by the employer in accordance with the provisions of Dlgs n. 81. April 9, 2008. Workers exposed to this chemical agent should not be subject to health surveillance if the results of the risk assessment show that, depending on the type and quantity of dangerous chemical agent and method and frequency of exposure to the agent, there is only a "moderate Risk" for the health and safety of workers and that the measures laid down in the Decree are sufficient to reduce the risk.

Do not ingest. Keep out of reach of children.

For professional use only

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
Sodium hydroxide	>= 30 < 50%	Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	011-002-00-6	1310-73-2	215-185-5	01-2119457892-27-XXXX
Potassium hydroxide	>= 20 < 30%	Met. Corr. 1, H290; Acute Tox. 4, H302;	019-002-00-8	1310-58-3	215-181-3	01-2119487136-33-XX

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACh
		Skin Corr. 1A, H314				XX
Disodium metasilicate	>= 5 < 10%	Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318; STOT SE 3, H335	014-010-00-8	6834-92-0	229-912-9	01-2119449811-37-XXXX
Sodium carbonate	>= 1 < 5%	Eye Irrit. 2, H319	011-005-00-2	497-19-8	207-838-8	01-2119485498-19-XXXX
Alkyl polyglycol ether C12-18	>= 1 < 5%	Skin Irrit. 2, H315; Aquatic Acute 1, H400; Aquatic Chronic 3, H412		146340-16-1		

SECTION 4. First aid measures

4.1. Description of first aid measures

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

Direct contact with skin (of the pure product).:
Take off immediately contaminated clothing.
In case of contact with skin, wash immediately with watrer.
Immediately consult a physician.

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

Ingestion:
The product is harmful and can cause irreversible damages even following a single exposure if swallowed.
Drink water with egg white; do not give bicarbonate.
Absolutely do not induce vomiting or emesis. Seek medical advice immediately.

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

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

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

Immediately call a POISON CENTER or a doctor.

SECTION 5. Extinguishing measures

Water spray, CO2, foam, chemical powders depending on the materials involved in the fire.
Extinguishing media to avoid: Water jets. Use water jets only to cool the surfaces of containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use respiratory protection. Safety helmet and complete protective clothing. Water spray can be used to protect people involved in extinction. It is also advisable to use self-contained breathing apparatus, above all, if operating in closed and poorly ventilated areas and in any case using halogenated extinguishing agents (fluobrene, solkane 123, naf etc .). Cool the containers with jets of water

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
Inform the competent 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 elimination.

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

Wear protective gloves/clothing and eye/face protection.
In residential areas do not use on large surfaces.
At work do not eat or drink.
Do not eat, drink or smoke when using this product.
See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Industrial Manufacturing:
Handle with extreme caution.
Store in a well ventilated place away from heat sources. (7-30°C)

See the annex exposure scenario.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

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

Switzerland: x/2 inhalable aerosol
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
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

Potassium hydroxide:
ACGIH - C: 2 mg/m3

Limit value – Eight hours
(ppm)/(mg/m3)
Austria: x/2 inhalable aerosol
Denmark: x/2
Hungary: x/2
Japan (JSOH): x/2(1)

Poland: x/0,5
Spain: x/2
Sweden: x/1
Switzerland: x/2 inhalable aerosol

Limit Value – Short Term
(ppm)/(mg/m3)
Austalia: x/2(1)
Belgium: x/2(1)(2)
Canada - Ontario: x/2(1)
Canada – Québec: x/2(1)
Denmark: x/2
Finland: x/2(1)
France: x/2
Hungary: x/2
Ireland: x/2(1)
New Zealand: x/2(1)
People's Republic of China: x/2(1)
Poland: x/1
Singapore: x/2
South Korea: x/2(1)
Sweden: x/2(1)
USA – NIOSH: x/2(1)
United Kingdom: x/2

Remarks:
Australia: (1) Celling limit value
Belgium: (1) Additional indication "M" means that irritation occurs when the exposure exceeds the limit value or there is a risk of acute poisoning. The work process must be designed in such a way that the exposure never exceeds the limit value. For evaluation, the sampled period should be as short as possible. However, the sampled period shall be long enough to perform a reliable measurement. The measured result shall be related to the considered period.
Canada – Ontario: (1) Celling limit value
Canada – Québec: (1) Celling limit value
Finland: (1) Celling limit 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
New Zealand: (1) Celling limit value
People's Republic of China: (1) Celling limit value
South Korea: (1) Celling limit 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: ACGIH C2 mg/m3 - Note: URT, eye, and skin irr
Estonia: THRESHOLD (average concentration of the chemical inhaled in the air during a working day or a working week) 2 mg/m3
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
South Africa: Short Term OEL-CL mg/m³ 2

Sodium carbonate:
Tipo OEL: OEL TWA: 10mg/m3

- Substance: Sodium hydroxide

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

- Substance: Potassium hydroxide
DNEL
Local effects Long term Workers inhalation = 1
Local effects Long term Consumers inhalation = 1 (mg/m3)

- Substance: Disodium metasilicate
DNEL
Systemic effects Long term Workers inhalation = 6,22 (mg/m3)
Systemic effects Long term Workers dermal = 1,49 (mg/kg bw/day)
Systemic effects Long term Consumers inhalation = 1,55 (mg/m3)
Systemic effects Long term Consumers dermal = 0,74 (mg/kg bw/day)
Systemic effects Long term Consumers oral = 0,74 (mg/kg bw/day)
PNEC
Sweet water = 7,5 (mg/l)
Sea water = 1 (mg/l)
intermittent emissions = 7,5 (mg/l)
STP = 1000 (mg/l)

- Substance: Sodium carbonate
DNEL
Local effects Long term Workers inhalation = 10
Local effects Long term Consumers inhalation = 10 (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)

8.2.2 Individual protection measures:

(a) Eye / face protection
Wear protective goggles (EN 166).

(b) Skin protection

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

(ii) Other
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 RSPP

(c) Respiratory protection
Not needed for normal use
In case of insufficient ventilation or emergency, use mask with generic ABECK filters (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	powder with white flakes	
Odour	not determined as deemed not relevant to the characterization of the product	
Odour threshold	not determined as deemed not relevant to the characterization of the product	
pH	>12.0 (20°C; sol.5%)	
Melting point/freezing point	not determined as deemed not relevant to the characterization of the product	
Initial boiling point and boiling range	not determined as deemed not relevant to the characterization of the product	
Flash point	not determined as deemed not relevant to the characterization of the product	
Evaporation rate	not determined as deemed not relevant to the characterization of the product	
Flammability (solid, gas)	not determined as deemed not relevant to the characterization of the product	
Upper/lower flammability or explosive limits	not determined as deemed not relevant to the characterization of the product	
Vapour pressure	not determined as deemed not relevant to the characterization of the product	
Vapour density	not determined as deemed not relevant to the characterization of the product	
Relative density	0.65 ± 0,05 (20°C)	
Solubility	in water	
Water solubility	not determined as considered not relevant for the characterization of the product	
Partition coefficient: n-octanol/water	not determined as deemed not relevant to the characterization of the product	
Auto-ignition temperature	not determined as deemed not relevant to the characterization of the product	
Decomposition temperature	not determined as deemed not relevant to the characterization of the product	
Viscosity	not determined as deemed not relevant to the characterization of the product	
Explosive properties	not determined as deemed not relevant to the characterization of the product	
Oxidising properties	not determined as deemed not relevant to the characterization of the product	

Physical and chemical properties	Value	Determination method

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

Strong base

10.2. Chemical stability

In contact with air it produces carbonates

10.3. Possibility of hazardous reactions

Reacts with aluminum, tin, zinc and their alloys, bronze, lead, etc. by emitting hydrogen. Very exothermic reaction with strong acids.

10.4. Conditions to avoid

Avoid prolonged contact with air and 10.3

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

No decomposition if used for the intended uses.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

ATE(mix) oral = 1.577,8 mg/kg
ATE(mix) dermal = ∞
ATE(mix) inhal = ∞

(a) acute toxicity: Harmful product: do not ingest
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
Potassium hydroxide: Ingestion - LD50 rat (mg / kg / 24h bw): 333 - 388
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw): nd
Inhalation - LD50 rat (mg / l / 4h): nd
Disodium metasilicate: Ingestion - LD50 rat (mg / kg / 24h bw): 994.7 - 1 530
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw):> 5000
Inhalation - LD50 rat (mg / l / 4h) :> 2.06
Sodium carbonate: Ingestion - LD50 rat (mg / kg / 24h bw): 2800
Skin contact - LC50 rat / rabbit (mg / kg / 24h bw):> 2000
Inhalation - LD50 rat (mg / l / 4h): 2.3
Alkyl polyglycol ether C12-18: Ingestion-rat LD50 (mg/kg/bw 24h): > 2000

Skin contact-LC50 rat/coniglio (mg/kg/bw24h): n.a.

Inhalation-rat LD50 (mg/l/4:00): n.a.
(b) skin corrosion/irritationCorrosive product: causes severe skin burns and eye damage.
Sodium hydroxide: Corrosive
Potassium hydroxide: Corrosive
Disodium metasilicate: Corrosive
Sodium carbonate: Non-corrosive
Alkyl polyglycol ether C12-18: Not corrosive
Sodium hydroxide: Irritating
Potassium hydroxide: Irritating
Disodium metasilicate: Irritating
Sodium carbonate: Irritating
Alkyl polyglycol ether C12-18: 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 hydroxide: Corrosive
Potassium hydroxide: Corrosive
Disodium metasilicate: The material causes chemical burns. It can cause permanent damage if the eye is not irrigated immediately
Sodium carbonate: Non-corrosive
Alkyl polyglycol ether C12-18: Not corrosive
Sodium hydroxide: Irritating
Potassium hydroxide: Irritating
Disodium metasilicate: Irritating
Sodium carbonate: Irritating
Alkyl polyglycol ether C12-18: Not irritating
(d) respiratory or skin sensitization: Sodium hydroxide: Not sensitizing
Potassium hydroxide: Not sensitizing
Disodium metasilicate: Non-sensitizing (LLNA)
Sodium carbonate: Non-sensitizing
Alkyl polyglycol ether C12-18: Not sensitizing
(e) germ cell mutagenicity: Sodium hydroxide: Not mutagenic
Potassium hydroxide: Not mutagenic
Disodium metasilicate: Not mutagenic
Sodium carbonate: Non-mutagenic
Alkyl polyglycol ether C12-18: Not mutagenic on bacteria
(f) carcinogenicity: Sodium hydroxide: Not carcinogenic

Potassium hydroxide: Not available
Disodium metasilicate: Not carcinogenic
Sodium carbonate: Non-carcinogenic
Alkyl polyglycol ether C12-18: Unavailable
(g) reproductive toxicity: Sodium hydroxide: Non-toxic for reproduction
Potassium hydroxide: Not available
Disodium metasilicate: Effects on fertility: NOAEL (Rat)> 159 mg / kg bw / d. Developmental effects: NOAEL (Mouse)> 260 mg / kg bw / d.
Sodium carbonate: Non-toxic for reproduction
Alkyl polyglycol ether C12-18: Unavailable
(h) specific target organ toxicity (STOT) single exposure: Sodium hydroxide: The substance can be absorbed into the body by inhalation of its aerosols and by ingestion.
Potassium hydroxide: Not available
Disodium metasilicate: Irritates respiratory systems
Sodium carbonate: Not available
Alkyl polyglycol ether C12-18: Unavailable
(i) specific target organ toxicity (STOT) repeated exposureSodium hydroxide: The substance can be absorbed into the body by inhalation of its aerosols and by ingestion. The symptoms of pulmonary edema often do not manifest themselves before a few hours and are exacerbated by physical exertion. Rest and medical observation are therefore essential
Potassium hydroxide: Not available
Disodium metasilicate: NOAEL oral (rat): 227 - 237 mg / kg bw / day oral
NOAEL oral (mouse): 260 - 284 mg / kg bw / day oral
LOAEL oral (mouse): 716 - 892 mg / kg bw / day
Sodium carbonate: Not available
Alkyl polyglycol ether C12-18: No adverse effects were observed in animal studies after repeated oral exposure
(j) aspiration hazard: Sodium hydroxide: Not available
Potassium hydroxide: Not available
Disodium metasilicate: Not available
Sodium carbonate: Not available
Alkyl polyglycol ether C12-18: Aspiration hazard is not expected

==========
Related to contained substances:
Sodium hydroxide:
LD50 Dermal (rat or rabbit) (mg/kg body weight) = 1350

Potassium hydroxide:
LD50 (rat) Oral (mg/kg body weight) = 388

SECTION 12. Ecological information

12.1. Toxicity

==========
Related to contained substances:
Sodium hydroxide:
Acute toxicity - LC50 fish (mg / l / 96h): 45
Acute toxicity - crustaceans EC50 (mg / l / 48h): 40
Acute toxicity algae ErC50 (mg / l / 72-96h): nd
Chronic toxicity - NOEC fish (mg / l): nd
Chronic toxicity - crustaceans NOEC (mg / l): nd
Chronic toxicity NOEC algal (mg / l): nd
C(E)L50 (mg/l) = 45

Potassium hydroxide:

Acute toxicity - fish LC50 (mg / l / 96h): 50 - 165
Acute toxicity - crustaceans EC50 (mg / l / 48h): nd
Acute algae toxicity ErC50 (mg / l / 72-96h): nd
Chronic toxicity - NOEC fish (mg / l): nd
Chronic toxicity - crustaceans NOEC (mg / l): nd
Chronic toxicity algae NOEC (mg / l): nd
Potassium hydroxide is a strongly alkaline substance that dissociates completely in water to K + and OH- (OIDD SIDS potassium hydroxide, 2002). Therefore, the possible effective effect would result from the pH effect. However, the pH will remain between the expected environmental ranges
C(E)L50 (mg/l) = 80

Disodium metasilicate:
Acute toxicity on fish LC50 (96 hours): 210 (Brachydanio rerio) - 2 320 (Gambusia affinis) Acute toxicity on invertebrates: EC50 (48 hours): 1700 mg / l (Daphnia magna)
Acute toxicity on Algae / Cyanobacteria: EC50 (72 h, biomass): 207 mg / L (Scenedesmus subspicatus), EC50 (72 hours, Growth inhibition): 345.4 mg / L
Chronic toxicity - NOEC fish (mg / l): nd
Chronic toxicity - crustaceans NOEC (mg / l): nd
Chronic toxicity NOEC algae (mg / l): nd
Toxicity on microorganisms: EC50 (3 h) 100 mg / L - EC0 (30 min) 1 g / L
C(E)L50 (mg/l) = 1108

Sodium carbonate:
Acute toxicity - LC50 fish (mg / l / 96h):> 300
Acute toxicity - crustaceans EC50 (mg / l / 48h): 210
Acute toxicity algae ErC50 (mg / l / 72-96h): 740

Alkyl polyglycol ether C12-18:
Acute toxicity - LC50 fish (mg / l / 48h):> 0.1 - 1
Acute toxicity - crustaceans EC50 (mg / l / 24h):> 0.1 - 1
Acute toxicity algae ErC50 (mg / l / 72-96h):> 0,1 - 1
Chronic toxicity - NOEC fish (mg / l): nd
Chronic toxicity - crustaceans NOEC (mg / l):> 0.1 - 1 (Daphnia magna - OECD - guideline 202 part 2)
Toxicity chronic NOEC algae (mg / l): nd

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 hydroxide:
Not applicable

Potassium hydroxide:
Potassium hydroxide is not classified for the environmental compartment based on its dissociation in the environment, lack of bioacumulation and lack of adsorption of particles or surfaces.

Disodium metasilicate:
Not applicable

Sodium carbonate:
Not available

Alkyl polyglycol ether C12-18:
Easily biodegradable

12.3. Bioaccumulative potential

==========
Related to contained substances:
Sodium hydroxide:
Not bioaccumulative

Potassium hydroxide:
Potassium hydroxide is a strong alkaline substance that completely dissociates in water to K + and OH-. Considering its high solubility in water, potassium hydroxide is not expected to be bioconcentric in organisms. Log Pow is not applicable for an inorganic compound that dissociates.

Disodium metasilicate:
Toxicokinetic data on vertebrates revealed a low potential for bioaccumulation. The soluble ingested silicates are excreted through the urine and to a lesser extent through the faeces. Markedly increased rapid urinary silica excretion was observed when soluble sodium silicates were administered to rats (Benke & Osborn 1979), dogs (King et al. 1933), cats (King & McGeorge 1938) and guinea pigs (Sauer et al 1959). The half-life of urinary silicon excretion after administration of sodium silicate in rats via the gastric cannula was 24 hours (Benke & Osborn 1979).

Sodium carbonate:
Not available

Alkyl polyglycol ether C12-18:
Not bioaccumulative

12.4. Mobility in soil

==========
Related to contained substances:
Sodium hydroxide:
Not applicable

Potassium hydroxide:
According to the REACH regulation, it is not necessary to conduct the study if, based on the properties of the physical, the substance can be expected to have a low adsorption potential (Annex VIII, adaptation of column 2). Potassium hydroxide is very soluble in water and completely dissociates into K + and OH-. If emitted in surface waters, the absorption of particles and sediments will be negligible

Disodium metasilicate:
Due to a strong dependence on pH and concentration which leads to a dynamic polymerisation-depolymerisation equilibrium with speciation into a variety of mono-, oligo-, and polymeric anions and amorphous silica, calculations on the distribution in various environmental compartments are not feasible (HERA 2005).

Dissolved silica from commercial soluble silicates is indistinguishable from natural dissolved silica. Of the elemental composition of the earth's crust, SiO2represents about 59%. Similar percentages are obtained for many sediments and soils (Jackson 1964 as cited in HERA 2005). Silica is found in European rivers in mean concentrations of 7.5 mg SiO2/L (Jorgensen et al. 1991). Thus, silica is the second most abundant element on earth. Compounds of silicon and oxygen are ubiquitous in the environment; they are present in inorganic matter, like minerals and soils as well as in organic matter, like plants, animals and man. By weathering of soil, rocks and sediments and by atmospheric deposition, silica is released into surface and ground waters from where it may be removed by precipitation and sedimentation or taken up by living organisms, especially diatoms. Dead sedimenting diatoms also contribute significantly to sediment silica (diatomaceous earth). Silica is found in all natural waters with an average concentration of 10-20 mg SiO2/L (HERA 2005).

Due to the low vapour pressure, volatilisation is not expected.

Sodium carbonate:
Not available

Alkyl polyglycol ether C12-18:
Possible absorption in the solid phase of the soil

12.5. Results of PBT and vPvB assessment

No PBT/vPvB ingredient is present

12.6. 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

ADR/RID/IMDG/ICAO-IATA: 3262

If subject to the following characteristics is ADR exempt:
Combination packagings: per inner packaging 1 kg per package 30 Kg
Inner packaging placed in skrink-wrapped or stretch-wrapped trays: per inner packaging 1 kg per package 20 Kg

14.2. UN proper shipping name

ADR/RID/IMDG: SOLIDO INORGANICO CORROSIVO, BASICO, N.A.S. (Idrossido di potassio e Idrossido di sodio in miscela)
ADR/RID/IMDG: CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide and sodium hydroxide in mixture)
ICAO-IATA: CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Potassium hydroxide and 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 kg
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. Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

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

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: 2.2. Label elements 3.2 Composition/information on ingredients

Description of hazard statements set out in paragraph 3
H290 = May be corrosive to metals.
H314 = Causes severe skin burns and eye damage.
H318 = Causes serious eye damage.
H302 = Harmful if swallowed.
H335 = May cause respiratory irritation.
H319 = Causes serious eye irritation.
H315 = Causes skin irritation.
H400 = Very toxic to aquatic life.
H412 = Harmful 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.

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

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

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

n.a.: not applicable
n.d.: not available
ADR: Accord 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: label elements variation, exposure scenario updating, attached working instruction table

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_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).

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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#5 06/15/20

Use description	[PROC4] Use in batch and other process (syn- thesis) where opportunity for exposure arise; [PROC8b]Transfer of substance or mixture (charging and discharging) at dedicated facilities; PROC13]Treatment of articles by dipping and pouring
Product name	**REMOVIL K**
Classification of the product (100%)	H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage.
Classification of the diluted product (maximum use concentration)	At maximux concentration of use (5%) the product is classified: H290 - May be corrosive to metals. H314 - Causes severe skin burns and eye damage H318 - Causes serious eye damage.
Handling of the product (100%)	Avoid contact and inhalation of dust Wear protective gloves/protective clothing/eye protection/face protection. At work do not eat or drink.
Handling of the diluted product	Avoid contact and inhalation of vapors Wear protective gloves/protective clothing/eye protection/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) After wiping up, wash with water the area and materials involved
Diluited product	Wear gloves, mask 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.