

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], Manufacture of food products[SU4]

Product category:

Washing and Cleaning Products (including solvent based products)

Process categories:

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

Not recommended uses

Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

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SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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

Pictograms:

GHS05, GHS07

Hazard Class and Category Code(s):

Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A, 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

Do not ingest. Keep out of reach of children.

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACH
Sodium hydroxide	>= 25 < 50%	Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 Limits: Skin Corr. 1A, H314 %C >=5; Skin Corr. 1B, H314 2<= %C <5; Eye Irrit. 2, H319 0,5<= %C <2; Eye Dam. 1, H318 %C >=2; Skin Irrit. 2, H315 %C >=0,5;	011-002-00-6	1310-73-2	215-185-5	01-2119457 892-27-XXX X
Potassium hydroxide	>= 10 < 25%	Met. Corr. 1, H290;	019-002-00-8	1310-58-3	215-181-3	01-211948

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACH
		Acute Tox. 4, H302; Skin Corr. 1A, H314 Limits: Skin Corr. 1A, H314 %C >=5; Skin Corr. 1B, H314 2<= %C <5; Skin Irrit. 2, H315 0,5<= %C <2; Eye Irrit. 2, H319 0,5<= %C <2; ATE oral = 333,0 mg/kg				7136-33-XX 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	01-2119449 811-37-XXX X
Sodium carbonate	>= 3 < 5%	Eye Irrit. 2, H319	011-005-00-2	497-19-8	207-838-8	01-2119485 498-19-XXX X
Alkyl polyglycol ether C12-18	>= 1 < 2,5%	Skin Irrit. 2, H315; Aquatic Acute 1, H400; Aquatic Chronic 3, H412 Acute toxicity M-factor = 1 Chronic toxicity M-factor = 1		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 water.
Immediately consult a physician.

Direct contact with eyes (of the pure product):

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

Ingestion:

The product is harmful and can cause irreversible damages even following a single exposure if swallowed.
Rinse mouth immediately.
Absolutely do not induce vomiting or emesis. Seek medical advice immediately.

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

Ingestion can cause chemical burns in the mouth and throat 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. Firefighting measures

5.1. Extinguishing media

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.
Provide 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.

Handle the product after consulting all other sections of this safety data sheet.

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)

Manufacture of food products:

Handle with Care. Store in a clean, dry and ventilated place, away from heat sources and direct sunlight.

Keep the container tightly closed. (7-30°C)

See the annex exposure scenario.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

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Related to contained substances:

Sodium hydroxide:

Limit value – Eight hours

(ppm)/(mg/m³)

Austria: x/2 inhalable aerosol

Belgium: x/2 (1)
Denmark: x/2
France: x/2
Hungary: x/2
Japan (JSOH): x/2(1)
Latvia: x/0,5
Poland: x/0,5
Romania: x/1
Spain: x/2
Sweden: x/1 (1)
Switzerland: x/2 inhalable aerosol (MAK)
USA – OSHA: x/2

Limit Value – Short Term

(ppm)/(mg/m³)
Australia: x/2(1)
Austria: x/4 inhalable aerosol
Canada - Ontario: x/2(1)
Canada – Québec: x/2(1)
Denmark: x/2
Finland: x/2(1)
Hungary: x/2
Ireland: x/2(1)
New Zealand: x/2(1)
People's Republic of China: x/2(1)
Poland: x/1
Romania: x/3(1)
Singapore: x/2
South Korea: x/2(1)
Sweden: x/2(1)(2)
Switzerland: x/2 inhalable aerosol (MAK)
USA – NIOSH: x/2(1)
United Kingdom: x/2

Remarks:

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

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)
Australia: 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) Ceiling 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) Ceiling limit value
Canada – Québec: (1) Ceiling limit value
Finland: (1) Ceiling 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) Ceiling limit value
People's Republic of China: (1) Ceiling limit value
South Korea: (1) Ceiling limit value
Sweden: (1) Inhalable dust (2) Ceiling limit value
USA – NIOSH: (1) Ceiling limit value (15 min)

Argentina: 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

Norway: ceiling value (a moment value that indicates the maximum concentration of a chemical in the breathing zone that should not be exceeded) 2 mg/m³
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 (mg/m³)
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 (mg/m³)
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)

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

8.2.2 Individual protection measures:

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

(b) Skin protection

(i) Hand protection

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

(ii) Other

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

(c) Respiratory protection

Not needed for normal use.

In case of insufficient ventilation or emergency, use mask with generic ABECK filters (EN 405) unless otherwise provided by the employer and / or assessments of environmental investigations hygienistic. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Use certified respiratory protection equipment meeting EU requirements (89/656/EEC, 245/2016 UE), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

(d) Thermal hazards

No hazard to report

Environmental exposure controls:

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

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	powder with white flakes	
Colour	White	
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	

Physical and chemical properties	Value	Determination method
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	

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 hazard classes as defined in Regulation (EC) No 1272/2008

ATE(mix) oral = 1.354,1 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/irritation: Corrosive 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 sensitisation: 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: NaOH did not induce mutagenicity in in vitro and in vivo studies (EU RAR, 2007; section 4.1.2.7, page 73).

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: 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.

Potassium hydroxide: Not available

Disodium metasilicate: Not carcinogenic

Sodium carbonate: Non-carcinogenic

Alkyl polyglycol ether C12-18: Unavailable

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

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 aerosol, by ingestion and by contact with the skin causing corrosion

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

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

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

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Related to contained substances:

Sodium hydroxide:

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

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

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

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

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

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

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

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

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

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

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

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:

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

Potassium hydroxide:

Potassium hydroxide is not classified for the environmental compartment based on its dissociation in the environment, lack of bioaccumulation 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:

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.

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:

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).

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, SiO₂ represents 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. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No adverse effects

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

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

SECTION 13. Disposal considerations

13.1. Waste treatment methods

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

Recover if possible. Operate according to local or national regulations

SECTION 14. Transport information

14.1. UN number or ID number

ADR/RID/IMDG/ICAO-IATA: 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. (Sodium hydroxide and Potassium hydroxide in mixture)

ICAO-IATA: CORROSIVE SOLID, BASIC, INORGANIC, N.O.S. (Sodium hydroxide and Potassium 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. Maritime transport in bulk according to IMO instruments

Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

Restrictions relating to the product or contained substances (All. XVII Reg. EC 1907/2006): not applicable
Substances in Candidate List (art. 59 Reg. EC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.
Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.
Reg. EC 648/04: see 2.2
Reg. (EU) n. 1169/2011: see 2.2
Reg (UE) 528/2012: see.to 2.2

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

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Points modified compared to previous release: 4.1. Description of first aid measures, 4.3. Indication of any immediate medical attention and special treatment needed, 6.3. Methods and material for containment and cleaning up, 6.4. Reference to other sections, 7.1. Precautions for safe handling, 7.3. Specific end use(s), 8.1. Control parameters, 8.2. Exposure controls, 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008, 12.1. Toxicity, 12.2. Persistence and degradability, 12.3. Bioaccumulative potential, 12.4. Mobility in soil, 12.6. Endocrine disrupting properties, 14.2. UN proper shipping name, 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Description of hazard statements set out in paragraph 3

- H290 = May be corrosive to metals.
- H314 = Causes severe skin burns and eye damage.
- H318 = Causes serious eye damage.
- H302 = Harmful if swallowed.
- 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.
- Regulation (UE) 528/2012 (Biocides) et seq.

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

Physical hazards: On the basis of experimental data

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

Other hazards: Calculation Method

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

n.a.: not applicable

n.d.: not available

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

ATE: Acute Toxicity 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: Environment Release Classes

EU/UE: European Union

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Dangerous Goods code

Kow: Octanol water partition coefficient

NOEC: No Observed Effect Concentration

OEL: Occupational Exposure Limit

PBT: Persistent Bioaccumulative and Toxic

PC: Product Categories

PNEC: Predicted No Effect Concentration

PROC: Process Categories

RID: Règlement concernant le transport International ferroviaire des marchandises dangereuses (Regulations concerning International rail transport of dangerous goods)

STOT: Target Organ Systemic Toxicity

STOT (RE): Repeated Exposure

STOT (SE): Single Exposure

STP: Sewage Treatment Plants

SU: Sector of Use

SVCH: Substance of Very High Concern

TLV: Threshold Limit Value

vPvB: Very Persistent Very Bioaccumulative

References and Sources:

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

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

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

Changes to the previous edition: updating to reg.(UE) 878/2020

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

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

General description of the process covered

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

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

Disclaimer

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

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

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

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

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

General description of the process covered

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

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

Disclaimer

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

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

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

General description of the process covered

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

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

Disclaimer

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

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

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

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WORKING ISTRUCTION TABLE



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

Attached to MSDS Rel#6 12/17/2021

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. H302 - Harmful if swallowed 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/clothing and eye/face protection. At work do not eat or drink.
Handling of the diluted product	Avoid contact and inhalation of vapors Wear protective gloves/clothing and eye/face protection At work do not eat or drink.
DPI required concentrated product (racking, concentrated use, spillage...)	Chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3), safety glasses (EN 166).
Diluted product	Chemical resistant protective gloves (EN 374-1/EN374-2/EN374-3), safety glasses (EN 166).

<p>In case of emergency (accidents involving exposure to the product)</p>	<p>Immediately inform the customer. Immediately inform the employer. Contact Poisons Centres tel. number in 1.4 section of the MSDS</p>
<p>Accidental release large quantities measures: concentrated product</p>	<p>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</p>
<p>Diluted product</p>	<p>Wear gloves, mask and protective clothing (for specifications refer to section 8.2. SDS). Wash with water the area and materials involved.</p>
<p>Storage of the product</p>	<p>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.</p>
<p>In case of accidents, emergency or fire</p>	<p>Immediately inform the customer. Follow company emergency instruction.</p>