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

1.1. Product identifier

Product name : PERACID
Product code: refer to sales department

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

Aqueous solution of Oxidising agents and bleaches
Sectors of use:
Industrial Manufacturing[SU3], Manufacture of food products[SU4], Public domain (administration, education, entertainment, services, craftsmen)[SU22]
Product category:
Washing and Cleaning Products (including solvent based products)
Process categories:
Use in batch and other process (syn- thesis) where opportunity for exposure arises[PROC4], Industrial spraying[PROC7], Transfer of substance or mixture (charging and discharging) at nondedicated facilities[PROC8A], Transfer of substance or mixture (charging and discharging) at dedicated facilities[PROC8B], Non industrial spraying[PROC11], Application with rollers or brushes [PROC10], 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 France Sarl
Siège social : 10 rue du stade 68240 Sigolsheim, France
Tél. +33 (0)389.47.32.33 - Fax +33 (0)389.47.33.34
E-mail: infofrance@aeb-group.com - Internet: www.aeb-group.com

Produit par :
AEB SpA
Via Vittorio Arici 104 S. Polo
25134 Brescia

1.4. Emergency telephone number

ORFILA + 33 (0)1 45 42 59 59

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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

Pictograms:
GHS02, GHS05, GHS07, GHS09

Hazard Class and Category Code(s):
Org. Perox. F, Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, STOT SE 3, Aquatic Chronic 1

Hazard statement Code(s):
H242 - Heating may cause a fire.
H290 - May be corrosive to metals.
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects. (Acute toxicity M-factor = 0)

The product is unstable and can catch fire in contact with heat sources
The product can be corrosive to metals

Corrosive product: causes severe skin burns and eye damage.
If inhaled, the product causes irritations to the respiratory tract.
If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

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

2.2. Label elements

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

Pictogram, Signal Word Code(s):
GHS02, GHS05, GHS07, GHS09 - Danger

Hazard statement Code(s):
H242 - Heating may cause a fire.

H290 - May be corrosive to metals.
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects. (Acute toxicity M-factor = 0)

Supplemental Hazard statement Code(s):
EUH071 - Corrosive to the respiratory tract.

Precautionary statements:
Prevention
P220 - Keep away from clothing and other combustible materials.
P260 - Do not breathe vapours/spray.
P280 - Wear protective gloves/clothing and eye/face protection.
Response
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P370+P378 - In case of fire: Use Spray Water to extinguish.
Disposal
P501 - Dispose of contents/container to local/regional/national/international regulations

Contains:
acetic acid, hydrogen peroxide, peracetic acid

Contains (Reg.EC 648/2004):
> 30% oxygen-based bleaching agents,< 5% phosphonates

2.3. Other hazards

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

Inhalation
Harmful if inhaled. At high vapour/fog concentrations: Possible irritation of respiratory system. Vapours by thermal decomposition of the product: Risk of irritation to the respiratory system. May cause respiratory irritation. Corrosive to the respiratory tract.
Skin Contact: harmful in contact with skin. Causes severe skin burns and eye damage.
Eyes Contact: causes severe skin burns and eye damage.
Ingestion: harmful if swallowed. Causes serious or permanent damage. Swallowing results in severe corrosive effects on the mouth and throat and perforation of the esophagus and stomach. The ingestion of large quantities of this product may cause the following: esophageal perforation danger and stomach.

Environmental Effects
Harmful to fish. Harmful Daphnia. Toxic to algae. Readily biodegradable. Very toxic to aquatic life with long lasting effects. This substance/mixture does not meet the PBT criteria of REACH, annex XIII. This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Physical and chemical hazards: heating may cause a fire. May be corrosive to metals. The product can rapidly decompose if heated or mixed with other incompatible chemical compounds (See Section 10.5). Thermal decomposition giving flammable and toxic products. Do not mix directly with amines, oxidizing agents, acids and alkalis especially in concentrated form, liquid oxygen, nitric acid, ozone, mineral acids. Store in a cool place away from heat or direct sunlight. Decomposition products: see section 10. Major adverse effects: See sections 9 to 12.

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
Hydrogen peroxide	20 - 22%	Ox. Liq. 1, H271; Acute Tox. 4, H302; Skin Corr. 1A, H314; Eye Dam. 1, H318; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Chronic 3, H412	008-003-00-9	7722-84-1	231-765-0	01-2119485845-22-XXXX
Acetic acid	15 - 17%	Flam. Liq. 3, H226; Skin Corr. 1A, H314; Eye Dam. 1, H318	607-002-00-6	64-19-7	200-580-7	01-2119475328-30-XXXX
Peracetic acidB D	8,5 – 9,5 %	EUH071; Flam. Liq. 3, H226; Org. Perox. D, H242; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Corr. 1A, H314; Acute Tox. 4, H332; STOT SE 3, H335; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Chronic toxicity M-factor = 10	607-094-00-8	79-21-0	201-186-8	01-2119531330-56-XXXX

SECTION 4. First aid measures

4.1. Description of first aid measures

General informations
Act quickly. If necessary, notify a doctor. Do not induce vomiting if the patient is unconscious. In case of splashes, remove soaked clothing including shoes and immerse them immediately in water to avoid risk of ignition. Symptoms of intoxication can appear even after several hours. It is recommended to remain under observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest, give artificial respiration.

Inhalation
Remove the injured person from the polluted area; if he suffers from respiratory failure, give artificial respiration with self-expanding balloon mask (AMBU). Immediately send to the emergency room. Put under surveillance medical. In case of ailments: Admission to hospital. Contact a POISON CENTER or doctor.

Contact with eyes
Act immediately. Wash thoroughly with running water, keeping the eyelid well away from the eye. Immediately send the injured person to an ophthalmologist. Do not treat the eye with ointments or oils. Do not use eye drops or ointments of any kind before the visit or the advice of the ophthalmologist. Contact a POISON CENTER or a doctor.

Skin contact
Immediately remove contaminated clothing, wash the affected parts of the body with plenty of water and soap. If redness or irritation persists, send the injured person to the emergency room for treatment (burn).

Ingestion
Do not induce vomiting. if victim is fully conscious / alert, rinse mouth with water and send immediately the injured person to the emergency room. Do not perform gastric lavage, risk of foam reflux.
Ingestion of this corrosive material can cause severe ulceration, inflammation and possibly perforation of the digestive canal, with bleeding and loss of fluids.
Its inhalation during induced vomiting can result in severe lung damage. DO NOT induce vomiting. Contact immediately a POISON CENTER or doctor.

First Aid - Advice
If swallowed, do not induce vomiting. Rinse your mouth with water and seek medical attention.

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

Inhalation Harmful if inhaled. It can irritate the respiratory tract. High concentrations of mist / vapors can irritate the respiratory tract. Inhalation of the vapors due to thermal decomposition of the product can irritate the respiratory tract. Skin contact Harmful in contact with skin. Causes severe skin burns. Eye contact Causes severe skin burns and eye damage. Causes serious or permanent damage. Ingestion Harmful if swallowed. Causes serious or permanent damage. Ingestion leads to strong corrosive effects on the mouth and throat and to perforation of the esophagus and stomach. Overexposure Signs / Symptoms Inhalation: respiratory tract irritation, cough. Ingestion: stomach pains. Contact with the skin: redness and ulcers. Causes severe burns. Contact with eyes: severe burns.

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

Treat symptomatically. If large quantities are ingested or inhaled, contact a poison control center immediately. The product is severely corrosive to the eyes and can cause delayed keratitis. If ingested, do not induce vomiting. Rinse the mouth with water and immediately send the injured person to the emergency room. Contact a Poison Control Center for more information on treatment. People with pre-existing skin, eye or respiratory diseases may be at increased risk due to the irritating and corrosive properties of this material. For more detailed information on health effects and symptoms, see Section 11. Specific toxicological information, if available, can be found in Section 11.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media: water spray, alcohol resistant foam, dry chemicals. Intervene with water, preferably divided, from a safe distance and upwind. Cool fire-exposed containers and surrounding area. Do not carry out any reclamation, cleaning or recovery operations until the entire area has been completely cooled. In case of decomposition, highlighted by the formation of fumes and the overheating of the containers, it is essential to cool with water.

Inadequate Extinguishing Media: Direct water jet.

5.2. Special hazards arising from the substance or mixture

Specific Risks
It can favor the ignition of combustible materials. It can release oxygen during the decomposition phase.

Released oxygen accelerates the combustion of flammable materials. If not properly cooled the fire can easily resume.

Oxidizing / Oxidizing Material: An increase in the product will occur in a fire or if the product is heated pressure of the containers which could cause them to burst. In case of danger, cool the containers with jets of water. Avoid breathing fumes / vapors. The heat of the fire can decompose the peroxides present in the area. Dangerous reactions: avoid contact with reducing agents, it reacts violently with release of heat with basic products.

General measures: evacuate unnecessary personnel, disperse gases / vapors with water spray, cool containers exposed to fire.
The main products of combustion are: hydrocarbons, carbon dioxide, carbon monoxide, water.
The main decomposition products: oxygen
Exposure to combustion or decomposition products can cause damage to health.

5.3. Advice for firefighters

As in any fire, wear full protective equipment: full face mask and / or self-contained breathing apparatus (EN 317), flame retardant suit (EN 469), flame retardant gloves (EN 659). Boots for Vigile del fire (HO A29-A30). Fighting fire from a distance (more than 15m). Cool the containers / tanks with water spray. In case of fire, remove containers exposed to fire. Prohibit all sources of sparks and ignition - No smoking.
Protective measures to be taken: remove the containers from the fire area, if this is possible without risk, or cool them because if the substance is exposed to thermal radiation or if directly involved it can give rise to toxic fumes. Damaged containers must only be handled by expert, trained and authorized personnel.
Proceed to extinguish the fire at a safe distance from the containers, using hoses or systems automatic fire extinguishers with nozzles positioned above the containers. Proceed to collect the water of shutdown. In the event of a small fire, extinguish with powder or carbon dioxide and then wet with water to prevent re-ignition.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:
Move away from the area surrounding the spill or release. Not smoking. Wear a mask, gloves and protective clothing.

6.1.2 For emergency responders:
Avoid direct flow into the sewer, surface and ground water. Avoid runoff on the ground. Dilute abundantly with water. In case of pollution of rivers, lakes or sewers, inform the competent authorities in accordance with local laws. Dam the leaks of large quantities with inert absorbent and / or earth and notify the competent authorities.

6.2. Environmental precautions

Contain spills with earth or sand.
If the product has entered a watercourse, sewers or has contaminated soil or vegetation, notify the authorities.
Dispose of the waste material in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 Containment:
Rapidly recover the product, wear a mask and protective clothing (for specifications refer to section 8.2. SDS)
Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert materia or sucked it.
Prevent it from entering the sewer system.

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

6.3.3 Other information:
Cleaning methods: contain and collect any spills with non-combustible absorbent material, such as sand, earth and dispose of the product in a container in compliance with current legislation (see section 13). Do not absorb with combustible materials. Do not use rags, sawdust, paper or other flammable materials (danger of spontaneous combustion). Thoroughly moisten the contents. Residues must not be collected in closed containers. Never reintroduce spilled product into original containers. Reuse is absolutely not recommended. Spilled material can be neutralized with sodium carbonate, sodium bicarbonate, or sodium hydroxide. After collection, aerate and wash the affected area with water, neutralize before allowing access.

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

Apply the legislation on Safety and Hygiene in the Workplace.
Use the personal protective equipment described in paragraph 8.
Establish a ban on using open flames, causing sparks and smoking in the places where handling takes place and product storage.
Do not eat, drink or smoke in the workplace.
Avoid direct contact with skin and eyes, inhalation of vapors and fumes. Handle in well ventilated areas. To avoid any kind of loss and / or escape. Do not leave the containers open. Do not mix / pollute with other substances that may cause decomposition. Carefully take care of the cleaning of the containers used for sampling and pouring. Not never reintroduce the product taken into the original container. Handle containers with care. Provide for the use of localized aspiration systems. Do not reuse empty containers before they have been cleaned.
Storage and handling provisions applicable to products: liquid, harmful, corrosive, dangerous organic peracids for the environment.
See also section 8 to refer to recommended devices. See Section 10.

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.
Keep away from open flames, sparks and heat sources. Avoid direct sunlight exposure.

7.3. Specific end use(s)

Industrial Manufacturing:
Handle with care. Store in a ventilated place away from heat sources (-5 / 30 ° C). Store in original container, tightly closed.

Manufacture of food products:
Handle with care. Store in a ventilated place away from heat sources (-5 / 30 ° C). Store in original container, tightly closed.

Public domain (administration, education, entertainment, services, craftsmen):
Handle with care. Store in a ventilated place away from heat sources (-5 / 30 ° C). Store in original container, tightly closed.

See the annex exposure scenario.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

==========

Related to contained substances:
Hydrogen peroxide:
Limit value – Eight hours
(ppm)/(mg/m3)
Australia: 1/1,4
Austria: 1/1,4
Belgium: 1/1,4
Canada – Ontario: 1/x
Canada – Québec: 1/1,4
Finland: 1/1,4
France: 1/1,5
Germany (DFG): 0,5/0,71
Ireland: 1/1,5
Italy. 1/1,4
People's Republic of China: x/1,5
Singapore: 1/1,4
South Korea: 1/1,5
Spain:1/1,4
Sweden: 1/1,4
Switzerland: 0,5/0,71
USA – NIOSH: 1/1,4
USA – OSHA: 1/1,4
United Kingdom: 1/1,4

Limit value – Short term
(ppm)/(mg/m3)
Australia: x/x
Austria: 2/2,8
Belgium: x/x
Canada – Ontario: x/x
Canada – Québec: x/x
Denmark: 2/2,8
Finland: 3(1)/4,2(1)
France: x/x
Germany (DFG): 0,5/0,71
Ireland: 2(1)/3(1)
Italy: x/x
People's Republic of China: x/x
Singapore: x/x
South Korea: x/x
Spain: x/x
Sweden: 2(1)/3(1)
Switzerland: 0,5/0,71
USA – NIOSH: x/x
USA – OSHA: x/x
United Kingdom: 2/2,8

Remarks
Finland: (1) 15 minutes average value
Ireland: (1) 15 minutes reference period
Sweden: (1) Celling limit value

Acetic acid:

Limit value/Eight hours
(ppm)/(mg/m3)
Australia: 10/25
Austria: 10/25
Belgium: 10/25
Canada-Ontario: 10/x
Canada-Québec: 10/25
Denmark: 10/25
European Union: 10/25
Finland: 5/13
France: x/x
Germany (AGS): 10/25
Germany (DFG): 10/25
Hungary: x/25
Ireland: 10/25
Italy: 10/25
Latvia: 10/25
New Zealand: 10/25
People's Republic of China: x/10
Poland: x/15
Singapore: 10/25
South Korea: 10/25
Switzerland: 10/25
Turkey: 10/25
USA-NIOSH: 10/25
USA-OSHA: 10/25
United Kingdom: [10]/[25]

Limit value/Short term
(ppm)/(mg/m3)
Australia: 15/37
Austria: 20-50
Belgium: 15/38
Canada-Ontario: 15/x
Canada-Québec: 15/37
Denmark: 20/50
European Union: x/x
Finland: 10(1)/25(1)
France: 10/25
Germany (AGS): 20(1)/50(1)
Germany (DFG): 20/50
Hungary: x/25
Ireland: 15(1)/37(1)
Italy: x/x
Latvia: x/x
New Zealand: 15/37
People's Republic of China: x/20(1)
Poland: x/30
Singapore: 15/37
South Korea: 15/37
Spain: 15/37
Sweden: 10(1)/25(1)
Switzerland: 20/50
Turkey: x/x
USA-NIOSH: 15(1)/37(1)
USA-OSHA: x/x
United Kingdom: [15]/[37]

Remarks

Austria: Indicative Occupational Exposure Limit Values, proposal [5] ~ (for reference see bibliography)
Finland: (1) 15 minutes average value
Germany (AGS): (1) 15 minutes average value
Germany (DFG): STV 15 minutes average value
Ireland: (1) 15 minutes reference period
People's Republic of China: (1) 15 minutes average value
Sweden: (1) Short-term value, 15 minutes average value

Tipo OEL: UE - LTE(8h): 25mg/m3, 10ppm
Tipo OEL: ACGIH - LTE(8h): 10ppm, - STEL: 15 ppm - Note: URT and eye irr, pulm func

Peracetic acid:

Fonte	Data	Valore	Valore (ppm)	Valore (mg/m3)	
OEL (IT)	–	–	–	–	Fonte del valore limite: ACGIH
ACGIH (US)	2012	TLV-ST	0.4 ppm	.24 mg/m3	Inhalable fraction and vapor TLV–STEL 15 min

- Substance: Hydrogen peroxide
DNEL
Local effects Long term Workers inhalation = 1,4
Local effects Long term Consumers inhalation = 0,21 (mg/m3)
Local effects Short term Workers inhalation = 3 (mg/m3)
Local effects Short term Consumers inhalation = 1,93 (mg/m3)
PNEC
Sweet water = 0,0126 (mg/l)
sediment Sweet water = 0,047 (mg/kg/sediment)
Sea water = 0,0126 (mg/l)
sediment Sea water = 0,047 (mg/kg/sediment)
intermittent emissions = 0,0138 (mg/l)
STP = 4,66 (mg/l)
ground = 0,0023 (mg/kg ground)

- Substance: Acetic acid
DNEL
Local effects Long term Workers inhalation = 25
Local effects Long term Consumers inhalation = 25 (mg/m3)
Local effects Short term Workers inhalation = 25 (mg/m3)
Local effects Short term Consumers inhalation = 25 (mg/m3)
PNEC
Sweet water = 3,058 (mg/l)
sediment Sweet water = 11,36 (mg/kg/sediment)
Sea water = 0,3058 (mg/l)
sediment Sea water = 1,136 (mg/kg/sediment)
intermittent emissions = 30,58 (mg/l)
STP = 85 (mg/l)
ground = 0,47 (mg/kg ground)

- Substance: Peracetic acid
DNEL
Systemic effects Long term Workers inhalation = 0,56 (mg/m3)
Systemic effects Long term Consumers inhalation = 0,28 (mg/m3)
Systemic effects Long term Consumers oral = 1,25 (mg/kg bw/day)
Systemic effects Short term Workers inhalation = 0,56 (mg/m3)
Systemic effects Short term Consumers inhalation = 0,28 (mg/m3)
Systemic effects Short term Consumers oral = 1,25 (mg/kg bw/day)

Local effects Long term Workers inhalation = 0,56
Local effects Long term Consumers inhalation = 0,28 (mg/m3)
Local effects Short term Workers inhalation = 0,56 (mg/m3)
Local effects Short term Consumers inhalation = 0,28 (mg/m3)
PNEC
Sweet water = 0,000094 (mg/l)
sediment Sweet water = 0,000077 (mg/kg/sediment)
Sea water = 0,000009 (mg/l)
sediment Sea water = 0,000015 (mg/kg/sediment)
intermittent emissions = 0,0016 (mg/l)
STP = 0,051 (mg/l)
ground = 0,32 (mg/kg ground)

8.2. Exposure controls

Appropriate engineering controls:
Industrial Manufacturing:
No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

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

Public domain (administration, education, entertainment, services, craftsmen):
No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)

8.2.2 Individual protection measures:

(a) Eye / face protection
Not needed for normal use.Wear safety goggles (EN166) and / or face shield when pouring. The use of a full face mask or other full face protection is strongly recommended when handling open containers or where there is the possibility of splashing.

(b) Skin protection
(i) Hand protection
Not necessary for normal use. During decanting or for prolonged contact, use waterproof and chemical resistant protective gloves (EN 374). Check the instructions regarding permeability and breakthrough time given by the glove supplier. Consider that due to various factors, such as temperature and conditions of use, the permeation time may vary from what is indicated in the standard.
Use gloves made of butyl rubber (0.5 mm> 8h), vinyl, nitrile, neoprene or other similar devices on indication of employer
Recommended gloves for pouring: nitrile rubber, breakthrough time:> = 30 min, material thickness:> = 0.4 mm
Recommended gloves for prolonged contact: butyl rubber breakthrough time:> = 480 min, material thickness:> = 0.7 mm.
Check its status before use.
(ii) Other
When handling the pure product, wear full protective clothing (generic workwear / antacid, safety shoes S3-EN ISO 20345) or other protective equipment, according to the instructions of the employer

(c) Respiratory protection
Not needed for normal use.
In case of insufficient ventilation, use a mask, wear an appropriate respirator (respirator with Filter A.): European Cartridges multipurpose type (A2B2E2K1P2), Combination Cartridge / Filter: 60922, 60923 or 60926, 3M multipurpose type (ABEK2P3), Acid Gas (AG) 6002, Organic Vapor / Acid gas (OV / AG) 6003, Multigas (MG / V) 6006.
Recommended filter ABEK or other protective devices, according to the indications of the employer

(d) Thermal hazards
No hazard to report

Environmental exposure controls:
Use according to good working practices and avoid to disperse the product into the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	clear colorless liquid	
Odour	pungent - similar to acetic acid	
Odour threshold	not determined as considered not relevant for the characterization of the product	
pH	0.5 ± 0.5 (20 ° C); 3.5 ± 0.5 (20 ° C, sol. 1%)	
Melting point/freezing point	-30 ° C ÷ -50 ° C. (Peracetic Sol. 15%)	
Initial boiling point and boiling range	> 100 (Peracetic Sol. 15%)	
Flash point	Flash-Point (EU Method A.9): 68 ° C - 81 ° C Open cup: not applicable	ASTM D92
Evaporation rate	> 1 (n-butyl acetate = 1)	
Flammability (solid, gas)	not determined as considered not relevant for the characterization of the product	
Upper/lower flammability or explosive limits	not determined as considered not relevant for the characterization of the product	
Vapour pressure	> 14 hPa (20 ° C)	
Vapour density	not determined as considered not relevant for the characterization of the product	
Relative density	1.120 - 1.130 (d 20/20)	
Solubility	not determined as considered not relevant for the characterization of the product	
Water solubility	Fully miscible	
Partition coefficient: n-octanol/water	not determined as considered not relevant for the characterization of the product	
Auto-ignition temperature	> 280 ° C (Peracetic Sol. 15%)	
Decomposition temperature	> 65 ° C SADT (Peracetic Sol. 15%)	
Viscosity	1,500 mm² / s Dynamic - 1.22 mm² / s (Static) (Sol. 5%)	
Explosive properties	Not explosive	
Oxidising properties	Organic peroxide of type F	

9.2. Other information

SADT (Self Accelerated Decomposition Temp): 65°C
Surface Tension mN/m at 20°C: 47.7 (Peracetic Sol. 15%) - 54 (Peracetic Sol. 5%)
Henry's law constant Pa m3 mol -1: 0.217 Pa m3 mol -1
COV Content VOC - EU 245,00 g/l VOC - CH 16,00 %
Active oxygen content: 11,5 – 12,0% w/w
Miscibility with Solvents: n-Heptane: < 10 g/l, p-Xylene: < 10 g/l, 1,2 Dichloroethane: < 10 g/l, Propan-2-ol: > 500 g/l
Acetone: > 500 g/l, Ethyl acetate: 20-25 g/l, See point 10.

SECTION 10. Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions. The product can react rapidly and violently when mixed with incompatible chemicals or heated. Do not mix directly with metal salts, accelerators, acids and alkalis, especially if in concentrated form, reducing products and organic and flammable substances. Keep away from chlorine or sulphite products

10.2. Chemical stability

Stable under recommended storage conditions. Under the recommended storage and handling conditions the product is stable for at least 12 months from the date of manufacture. However, the product can release oxygen. Do not remove the degassing systems present on the original packaging. Contact with incompatible substances can cause decomposition at or below self-accelerated decomposition temperature

10.3. Possibility of hazardous reactions

The product can decompose rapidly when mixed with incompatible chemicals or heated. Do not mix directly with metal salts, accelerators, acids and alkalis, especially if in concentrated form, reducing products and organic and flammable substances. In case of decomposition there is an increase in temperature and smoke emission. If attacked by fire, it will support combustion. The oxygen that develops in the event of a fire can favor the combustion of flammable substances. In case of fire and / or explosion do not breathe fumes. In a fire or if heated, a pressure increase of the container will occur which may cause it to burst. Reacts with hypochlorite (development of chlorine).

10.4. Conditions to avoid

Keep the container in a well-ventilated place. Keep in a cool place. To avoid thermal decomposition, do not overheat. Store at temperatures not exceeding 30 ° C. Keep away from heat sources and direct sunlight. Keep away from metal salts, metals, accelerators, acids and alkalis, especially if in concentrated form, reducing products and organic and flammable substances.

10.5. Incompatible materials

Reacts with alkalis and metals. Keep away from products containing chlorine or sulphite based bleaches. It can give rise to explosive reactions when in contact with acetic anhydride. Contact, especially if prolonged, with metals, metal ions, alkalis, reducing agents and organic substances (such as alcohol or terpenes) can initiate the self-accelerated decomposition process. It can give rise to violent reactions when in contact with strong oxidizing agents, strong reducing agents, acids, bases, amines, salts of metals and metals, sulfur compounds, rust, ash, organic dust (risk of self-accelerating exothermic decomposition), combustible materials

10.6. Hazardous decomposition products

Hazardous decomposition products: oxygen, corrosive gases / vapors, acetic acid, carbon dioxide, carbon monoxide. The oxygen that develops during decomposition can promote combustion

SECTION 11. Toxicological information

11.1. Information on toxicological effects

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

(a) acute toxicity: Hydrogen peroxide: Ingestion - LD50 rat (mg / kg / 24h bw): 693 - 1.026 mg / kg (H_2O_2 70%) - risk of burns to the mouth, esophagus and stomach. For rapid release of oxygen: risk of stomach dilation and bleeding with the possibility of serious injury, On the animal: (as an aqueous solution). LD50 / Rat: 1,200 mg / kg (35%) - ATE value of 431 mg / kg.
Skin contact - rabbit LC50 (mg / kg / 24h bw): skin irritant. On the animal: aqueous solution. Irritating to the skin. Superficial necrosis (After semi-occlusive contact, On rabbit, Exposure time: 4 h 35%) Corrosive to the skin. On humans: The effects of skin contact may include: discoloration, erythema, edema. ATE value of 6500 mg / kg (70%)
Inhalation - LC50, 4 h, rat,> 0.17 mg / l, vapor (H_2O_2 50%) at high concentrations of vapors / mists (maximum technically possible concentration 50%) A strong concentrations of vapors / mists: Risk of pulmonary edema, delayed effects are possible.
Acetic acid: LC50 Inhalation acetic acid (lethal conc - rat):> 16000 ppm 4h> 200 ppm 1h - ATE value of 11,400 mg / l / 4h
LD50 (lethal dose - rat): LD50 3310 - 4960 mg / kg - ATE value of 3310 mg / kg bw
LD50 Dermal acetic acid (Lethal Dose Rabbit):> 1900 mg / Kg bw - ATE value of 1060 mg / Kg bw; LD50 (Guinea pig)> 18900 mg / kg bw
Peracetic acid: LC50 Inhalation (letal dose - rat): > 500 mg/m3 4h (PAA 15%) - EPA OPP 81-3 - ATE value 0,204 mg PAA/l
LD50 Oral (letal dose - rat): 315 mg/Kg bw - 56.1-229 mg PAA/kg bw - 1147 and - 1957 mg/kg bw - ATE value of 85 mg/kg bw
LD50 Skin (letal dose - rat): > 1900 mg/Kg bw (PAA 12%) - EPA OPP 81-2 - ATE value of 56,1 mg/kg bw - ATE value of > 2000 mg/kg bw PAA < 16%
(b) skin corrosion/irritationCorrosive product: causes severe skin burns and eye damage.
Hydrogen peroxide: Corrosive to the skin (after semi-occlusive contact, on rabbit, exposure time: 1 - 4 h) (50%) Corrosive to the skin (after semi-occlusive contact, on rabbit, exposure time: 3 min) (50 - 70%).
Acetic acid: Corrosive for C> 25% w / w (rabbit)
Peracetic acid: Corrosive, Causes Burns, Irritant (rabbit)
Hydrogen peroxide: Corrosive to the skin (after semi-occlusive contact, on rabbit, exposure time: 1 - 4 h) (50%) Corrosive to the skin (after semi-occlusive contact, on rabbit, exposure time: 3 min) (50 - 70%).
Acetic acid: Corrosive for C> 25% w / w (rabbit)
Peracetic acid: Corrosive, Causes Burns, Irritant (rabbit)
(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.
Hydrogen peroxide: Corrosive to the eyes (H_2O_2> 35%)
Acetic acid: Corrosive for C> 25% w / w (guinea pig)
Peracetic acid: Corrosive, Causes Burns, Extremely Irritating (rabbit)
Hydrogen peroxide: Corrosive to the eyes (H_2O_2> 35%)
Acetic acid: Corrosive for C> 25% w / w (guinea pig)
Peracetic acid: Corrosive, Causes Burns, Extremely Irritating (rabbit)
(d) respiratory or skin sensitization: Hydrogen peroxide: Does not cause sensitization on laboratory animals (guinea pig)
Acetic acid: Does not cause sensitization.
Peracetic acid: According to its composition, can be considered as: Not a skin sensitizer
(e) germ cell mutagenicity: Hydrogen peroxide: In vitro: Genotoxic. In vivo: Not genotoxic. In vitro tests showed

mutagenic effects: genotoxic. In vivo tests did not show mutagenic effects. Micronucleus test in vivo in mice: Inactive (Method: 474 OECD Test). Testing of DNA repair of rat hepatocytes: Inactive (Method: OECD 486).
Acetic acid: No adverse effect observed
Peracetic acid: No adverse effects were observed
(f) carcinogenicity: Hydrogen peroxide: Experimentation on animals has not shown clear evidence of carcinogenic effect. Target Organs: duodenum, carcinogenic effect. Dermal, Prolonged exposure, mouse, Animal testing did not show any carcinogenic effects. Did not show carcinogenic effects in animal experiments. Topical applications do not produce skin tumors. Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).
Acetic acid: No adverse effect observed
Peracetic acid: No adverse effects were observed
(g) reproductive toxicity: Hydrogen peroxide: Based on the available data, the substance is not suspected of having reprotoxic potential. Based on the available data, the substance is not suspected of having developmental toxicity potential.
Acetic acid: Based on the available data, the substance is not suspected of having reprotoxic potential
Peracetic acid: Oral: Drinking Water F1 - NOAEL Effect level 5 mg / kg bw / day. Oral: Drinking Water P - NOAEL Effect level 5 mg / kg bw / day
(h) specific target organ toxicity (STOT) single exposure: If inhaled, the product causes irritations to the respiratory tract.
Hydrogen peroxide: At high vapour/fog concentrations: Irritating to respiratory system. (> 200 ppm). Inhalation, mice, 665 mg/m3 Remarks: RD 50, Irritating to respiratory system, H2O2 50%.
Acetic acid: Negative
Peracetic acid: STOT SE 3, H335. C = 1% Respiratory Tract.
(i) specific target organ toxicity (STOT) repeated exposureHydrogen peroxide: Oral, 90 days, rat, Target Organs: Gastrointestinal tract, 300ppm, LOAEL (pure substance). Oral, 90 days, rat, 100 ppm, NOAEL (pure substance) Inhalation, 28 days, rat, Target Organs: Respiratory system, 10 ppm, LOAEL, steam (pure substance) inhalation, 28 days, 2 ppm, NOAEL, steam (pure substance). By oral route: Irritation of the gastric mucosa, NOAEL= 26 mg/kg/d (rat, 3 months) (drinking water). Inhalation: Irritation of upper respiratory system, Irritating to nose, Local effects due to an irritant effect, LOAEL= 0,0029 mg/l (Method: OECD Test Guideline 407, rat, Repeated)
Acetic acid: Negative
Peracetic acid: Oral: No specific toxic effects found. NOAEL and LOAEL> 200 mg / L water based basis for effect level / Remarks based on PAA (15% in product). NOAEL and LOAEL> 29 mg / kg bw / day (actual dose received) basis for effect level / remarks based on PAA. NOAEL and LOAEL> 38 mg / kg bw / day (actual dose received).
(j) aspiration hazard: Hydrogen peroxide: Not available
Acetic acid: Negative
Peracetic acid: Not applicable

SECTION 12. Ecological information

12.1. Toxicity

==========
Related to contained substances:
Hydrogen peroxide:
Acute toxicity CE50 Static test Activated sludge (bacteria): 466 mg/l - 30 min (HP100%)
NOEC Staic Test Skeletonema costatum (Algae):1,38 mg/l (growth rate) Marine environment
Acute toxicity CE50 Skeletonema costatum (algae): 2,62 mg/l (HP 100%), 72 h
Acute toxicity CE50 Crustacei (Daphnia pulex 48h: 2,40 mg/l, water, Semistatic (HP100%)
NOEC Flow-through test with Daphnia M. (crustaceans): 0,63 mg/l - 21 d (HP100%)
Acute toxicity LC50 fishes (Pimephales promelas): 16.4 mg/l - 96 h (HP100%)
NOEC, fishes (Pimephales promelas): NOEC, 96 h, 5 mg/l (HP100%)

Acetic acid:
Acute toxicity EC50 bacteria (Anabaena flos-aquae 72h): 55,22 mg/l
Acute toxicity EC50 Alghe (Sceletonema costatum 72h): > 300 mg/l
Acute toxicity EC50 crustaceans (Daphnia magna 48h): > 300 mg/l
Acute toxicity LC50 fish (Oncorhynchus mykiss 96h): > 300 mg/l

Peracetic acid:
Acute toxicity EC50 bacteria (streptococcus fec. 60m): 50 mg/l
Acute toxicity EC50 Algae (Selenastrum capric. 72h): 0,16 mg/l (PAA 5%)
Acute toxicity EC50 crustaceans (Daphnia magna 48h): 0,73 mg/l (PAA 5%)
Acute toxicity LC50 fish (Oncorhynchus mykiss 96h): 0,53 mg/l
Acute toxicity ErC10 fish (Raphidocelis subcapitata): 2,1 mg/l - OECD TG 201
NOEC (chronic Toxicity Fish) 0,001 (0,0001 - 0,001) mg/l

C(E)L50 (mg/l) = 0,16
NOEC (mg/l) = 0,001 Chronic toxicity M-factor = 10

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

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

12.2. Persistence and degradability

==========
Related to contained substances:
Hydrogen peroxide:
Abiotic degradation: Air, indirect photo-oxidation, t 1/2 24 h Conditions: sensitizer: OH radical. Water, redox, t 1/2 120 h. Conditions: mineral and enzymatic catalysis, fresh water, brackish water. Soil, redox, t 1/2 12 h. Conditions: mineral and enzymatic catalysis. Biodegradation: aerobic, t 1/2 < 2 min Conditions: biological sewage sludge Readily biodegradable. Aerobic, t 1/2 from 0.3 to 5 d Conditions: fresh water Readily biodegradable. Anaerobic Conditions: Soil / sediments not applicable. Aerobic, t 1/2, 12 h Conditions: Soil Readily biodegradable. Readily Biodegradable (28 Days – OECD TG 301 E). The methods for determining biodegradability are not applicable to inorganic substances. Decomposition : few minutes to 24 h.

Acetic acid:
Readily Biodegradable (30 Giorni – OECD TG 301 E). Clayey sand: DT50: 2 days. Water: 96 % BOD after 20 days . Air: DT50 : 20 days.

Peracetic acid:
Readily Biodegradable 87% after 28 d (Method: OECD 301D (Closed bottle test)). Peracetic acid is completely miscible with water. Aqueous solutions of peracetic acid are hydrolized in acetic acid and hydrogen peroxide. The product is biodegradable.

12.3. Bioaccumulative potential

==========
Related to contained substances:
Hydrogen peroxide:
Partition coefficient: n-octanol/water: log Kow : = -1,57 , at 20 °C (Method: calculated)

Acetic acid:
Not bioaccumulable - log Pow= < 1 (- 0,17). BCF 3,16.

Peracetic acid:
Partition coefficient: n-octanol/water: log Kow : < 0,3 (OECD 117) Not bioaccumulable - log Pow = < 1 (- 0,26) On the basis of its low coefficient of octanol-water partition and its rapid degradation in the environment, this product is not bioaccumulating.

12.4. Mobility in soil

==========
Related to contained substances:
Hydrogen peroxide:
Soil: 750E-06 Pa.m3/mol, 20 °C, Surface tension: 73,4 mN/m % 20 °C /17%. Water solubility and mobility Soil/sediments, log KOC: 0.2 evaporation and adsorption is not significant. Air, Volatility, Henry constant, = 0.75 kPa.m³/mol Conditions: 20°C not significant. Surface tension: 75.7 mN / m % 20 ° C / 50 % .

Acetic acid:
Soil Koc 1,153

Peracetic acid:
Soil: Decomposes - half-life DT50 03 Min
The peracetic acid released into the environment is distributed almost exclusively (> 99 %) to the aquatic compartment. Only a minor part (< 1 %) will remain in the atmosphere, where it is expected to have rapid decay with a half-life of 22 minutes.

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

The safety measures in the handling of surplus and residues are described in sections 7 and 8 of this sheet. The product and packaging must always be disposed of in compliance with local regulations. The generation of waste should be avoided or minimized wherever possible. The concentrated content or contaminated packaging must be disposed of by an authorized company or in accordance with what is locally authorized. Dispose of this material and its uncleaned containers at a hazardous waste collection center or through an authorized disposal company. The clean packaging material is suitable for energy recovery or recycling according to local legislation. Residues must be handled and eliminated in accordance with local and national regulations in force.

SECTION 14. Transport information

14.1. UN number

ADR/RID/IMDG/ICAO-IATA: 3109

If subject to the following characteristics is ADR exempt:
Combination packagings: per inner packaging 125 ml per package 30 Kg
Inner packaging placed in skrink-wrapped or stretch-wrapped trays: per inner packaging 125 ml per package 20 Kg

14.2. UN proper shipping name

ADR/RID/IMDG: PEROSSIDO ORGANICO DI TIPO F, LIQUIDO (Acido Perossiacetico, Tipo F, Stabilizzato, C≤43%)
ADR/RID/IMDG: ORGANIC PEROXIDE TYPE F, LIQUID (PeroxyAcetic Acid, Type F, Stabilized C≤43%)
ICAO-IATA: ORGANIC PEROXIDE TYPE F, LIQUID (PeroxyAcetic Acid, Type F, Stabilized C≤43%)

14.3. Transport hazard class(es)

ADR/RID/IMDG/ICAO-IATA: Class : 5.2 (8)
ADR/RID/IMDG/ICAO-IATA: Label : 5.2+8+Environment
ADR: Tunnel restriction code : D
ADR/RID/IMDG/ICAO-IATA: Limited quantities : 125 ml
IMDG - EmS : F-J, S-R

14.4. Packing group

ADR/RID/IMDG/ICAO-IATA: --

14.5. Environmental hazards

ADR/RID/ICAO-IATA: Product is environmentally hazardous
IMDG: Marine polluting agent : Yes

14.6. Special precautions for user

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

14.7. 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
Reg (UE) 528/2012: see.to 2.2

Seveso category:

E1 - ENVIRONMENTAL HAZARDS
P6b - Organic peroxides

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

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Points modified compared to previous release: 1.2. Relevant identified uses of the substance or mixture and uses advised against, 2.1. Classification of the substance or mixture, 2.2. Label elements, 2.3. Other hazards, 4.1. Description of first aid measures, 4.2. Most important symptoms and effects, both acute and delayed, 4.3. Indication of any immediate medical attention and special treatment needed, 5.1. Extinguishing media, 5.2. Special hazards arising from the substance or mixture, 5.3. Advice for firefighters, 6.1. Personal precautions, protective equipment and emergency procedures, 6.2. Environmental precautions, 6.3. Methods and material for containment and cleaning up, 7.1. Precautions for safe handling, 7.3. Specific end use(s), 8.1. Control parameters, 8.2. Exposure controls, 10.1. Reactivity, 10.2. Chemical stability, 10.3. Possibility of hazardous reactions, 10.4. Conditions to avoid, 10.5. Incompatible materials, 10.6. Hazardous decomposition products, 11.1. Information on toxicological effects, 12.1. Toxicity, 12.5. Results of PBT and vPvB assessment, 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Description of hazard statements set out in paragraph 3
H271 = May cause fire or explosion; strong oxidiser.
H302 = Harmful if swallowed.
H314 = Causes severe skin burns and eye damage.
H318 = Causes serious eye damage.
H332 = Harmful if inhaled.
H335 = May cause respiratory irritation.
H412 = Harmful to aquatic life with long lasting effects.
H226 = Flammable liquid and vapour.
H242 = Heating may cause a fire.
H312 = Harmful in contact with skin.
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.

Classification based on data of all mixture components

Main normative references:
Reg. (CE) n. 1907 del 18/12/06 REACH (Registration, Evaluation and Authorisation of CHemicals) et seq.
Reg. (CE) 1272/2008 CLP (Classification Labelling and Packaging) et seq.
Regulation (EC) n. 648 of 31/03/04 (on detergents) et seq.
Regulation (UE) n. 1169/2011 (on the provision of food information to consumers)
Directive 2012/18/EU (on the control of major-accident hazards involving dangerous substances) et seq.
Regulation (UE) 528/2012 (Biocides) et seq.

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

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: Changes to the previous edition:sec.1,2,3,4,5,6,7,8,9, 10 11,12, Exposure Scenarios update- Working instruction table attached

SUMI

Safe Use of Mixtures Information

AISE_SUMI_IS_4_1

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_1**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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_7_5

Version 1.1, August 2018

Industrial spraying; Automated task; Open system; Long term

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 spraying products. This Safe Use Information is based on the **AISE_SWED_IS_7_5**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_IS_8b_1

Version 1.1, August 2018

Transfer and dilution of concentrated product by using dedicated dosing system

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

General description of the process covered

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

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

Disclaimer

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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.
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SUMI

Safe Use of Mixtures Information

AISE_SUMI_IS_10_2

Version 1.1, August 2018

Brushing; Automated task

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 the product is used in an automated brushing task. This Safe Use Information is based on the **AISE_SWED_IS_10_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	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_4

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_4**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_4_1

Version 1.1, August 2018

Professional uses; Semi-closed system

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

General description of the process covered

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

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_8a_1_G

Version 1.1, August 2018

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

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

General description of the process covered

This SUMI applies to professional uses where the product is transferred to or diluted in a container, such as a dispenser, bottle or bucket. Safe Use Information is based on the **AISE_SWED_PW_8a_1_L** and **AISE_SWED_PW_8a_1_S**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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where

SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_10_1

Version 1.1, August 2018

Professional uses; Brushing after trigger spraying or brushing with tools

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

General description of the process covered

This SUMI applies to professional uses where the product is brushed on a surface, with limited exposure to the hands, either after trigger spraying or through the use of tools such as a mop. This Safe Use Information is based on the **AISE_SWED_PW_10_1**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_11_4

Version 1.1, August 2018

Professional uses; Spraying

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

General description of the process covered

This SUMI applies to professional uses of products in a spraying application. This Safe Use Information is based on the **AISE_SWED_PW_11_4**.

Operational Conditions

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

Risk Management Measures

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

Additional good practice advice

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

Additional information depending on product composition

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

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SUMI

Safe Use of Mixtures Information

AISE_SUMI_PW_13_2

Version 1.1, August 2018

Professional uses; Treatment of articles by dipping, soaking 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 professional uses where articles are treated by dipping or pouring. This Safe Use Information is based on the **AISE_SWED_PW_13_2**.

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	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#10 del 28/12/20

Use description	Use in batch and other process (syn- thesis) where opportunity for exposure arises [PROC4], Industrialspraying [PROC7], Transfer of substance or mixture (charging and discharging) at dedicated facilities [PROC8B], Transfer of substance or mixture (charging and discharging) at nondedicated facilities [PROC8A], Application with rollers or brushes [PROC10], Non industrial spraying[PROC11], Treatment of articles by dipping and pouring [PROC13]
Product name	**PERACID**
Classification of the product (100%)	H242 - Heating may cause a fire. H290 - May be corrosive to metals. H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled H314 - Causes severe skin burns and eye damage. H318 - Causes serious eye damage. H335 - May cause respiratory irritation. H410 - Very toxic to aquatic life with long lasting effects.
Classification of the diluted product (maximum use concentration)	At maximux concentration of use (1%, tq) the product is classified: H412 -Harmful to aquatic life with long lasting effects.
Handling of the product (100%)	Avoid contact and inhalation of vapors Wear protective gloves/clothing and eye/face protection. At work do not eat or drink.
Handling of the diluted product	Avoid contact and inhalation of vapors - 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 (EN166)
Diluited product	-

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