Material Safety Data Sheet

complying with Regulation 1907/2006/EC (REACH Regulation), EU 2015/830 and Regulation No 1272/2008/EC (CLP)

Release date: 01.03.2016

APABIO
Rev. 04 date 01.09.2017

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the product

Chemical Name: Peroxyacetic acid – Peracetic acid, aqueous stabilized solution at ≤ 0,2% w/w

Trade name: APABIO – Peroxyacetic acid, aqueous stabilized solution at ≤ 0,2% w/w

Synonym most widely used: Peracetic acid – PeroxyAcetic Acid Aqueous equilibrium Stabilized Solution

Reach Substance IUPAC: Individual constituent of a multi constituent substance.

REACH Registration Number: 01-2119531330-56-0002

C.A.S. Registry Number: 79-21-0

EINECS Number: 201-186-8

1.2 Intended use

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

Description / Use

Intended use

Use at industrial site - textile care applications: Connecting of drums/IBCs with the washing machine, Transport of the product to the bleaching compartment, Textile bleaching. Use by professional worker - textile care applications: Connecting of cans/drums/IBCs with the washing machine in different conditions, Transport of the product to the bleaching compartment, Textile bleaching. Use at industrial site - paper, pulp bleaching applications: Changing, connecting and disconnecting of drums/IBCs to the system in different conditions, Paper and pulp pulp bleaching. Use at industrial site - food applications e.g. during sugar, starch manufacturing: Unloading of isocontainers in different conditions, Changing of IBCs/drum, Processing aid to improve product yield in different conditions, Technical auxiliary to reduce microbial contamination in different conditions. Use at industrial site: laboratory use - Sample analysis. Use by professional worker: laboratory use - Sample analysis. For this product have been identified different uses according REACH regulation. In order to improve readability, the uses are listed in the annex of this MSDS

1.3 Details of the Supplier of the Safety Data Sheet

IBL SPECIFIK

69 Avenue Aristide Briand, 94230 Cachan

Tel. +33 (0)1 41 98 32 20 Fax +33 (0)1 46 63 10 99 e-mail: contact@iblspecifik.com

1.4 Emergency telephone number

In the case of any accidental contact, call:

ANTIPoISONS CENTER - MILAN - ITALY

Tel. +39/02/66101029
d Fax +39/02/66101030

Centre Antipoison et de Toxicovigilance de Nancy - Base Nationale Produits et Compositions

Tel. +33(0)/3/83323636

SECTION 2: PRODUCT HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification

Regulation (EC) No. 1272/2008

Metal Corrosion

1 H290

Serious eye damage/eye irritation

2 H318

Chronic Aquatic Toxicity

3 H412

Hazard pictograms: Signal word: Warning

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms: Signal word: Warning

Signal word/Hazard statement(s) GHS

H- Code

H290: May be corrosive to metals. H318: Causes serious eye irritation. H412: Hazardful to aquatic life with long lasting effects.
Material Safety Data Sheet
complying with Regulation 1907/2006/EC (REACH Regulation), EU 2015/830 and Regulation No 1272/2008/EC (CLP)

Release date: 01.03.2016
APABIO
Revision n° 04 date 01.09.2017

P- Code
Precautionary statements

Supplemental Hazard Information (EWH-Statements).
Special provisions according to ANNEX XVII of Reach regulation abd subsequent amendments: None.
Product Content
Hazardous components which must be listed on the label:
Chemical Identity

2.3 Other hazards
Potential health effects:
Inhalation
Skin Contact
Eyes Contact
Ingestion

Environmental Effects:

Physical and chemical hazards:

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Preparation in compliance with EU Directives. Information on ingredients:

3.1 Substance
Not Applicable

3.2 Mixture
Organic Peroxide. Preparation based on: Monocostituent Substance (Individual constituent of a multiconstituent Substance).

HAZARDOUS COMPONENTS ACCORDING TO REGULATION (EC) NO. 1907/2006)

PERACETIC ACID
PEROXYACETIC ACID

Hazard classification: Oxygenated Bleaching Agents < 20 %.

Classified: Peroxyacetic acid CAS 79-21-0 – Hydrogen Peroxide CAS 7722-84-1 – Acetic Acid CAS 64-19-7

Peracetic acid, aqueous stabilized solution at < 0,2% w/w. Contains hydrogen peroxide (Hydrogen Peroxide), peracetic acid (Peracetic Acid), acetic acid (Acetic Acid).

HYDROGEN PEROXIDE

Preparation based on:

- Protective glasses and gloves
- A well ventilated place
- Acid and alkali resistant equipment
- Avoid contact with skin, eyes, and clothing
- Avoid smoking and fire hazards
- Keep dry, store in a cool place away from direct sunlight
- Keep away from combustible materials, amines, strong acids, strong bases, especially in concentrated form, liquid oxygen, nitric acid
- Wear protective glasses and a respirator
- Do not mix directly with amines, oxidizing agents, acids and alkalis especially in concentrated form
- Liquid oxygen, nitric acid
- Reaction with other incompatible chemical compounds
- May be corrosive to metals
- May be harmful to fish
- Harmful to algae
- Readily biodegradable toxic to aquatic life
- Acute toxicity oral < 63% w/w: 1A; 607-094-00-8 01-2119531330-56-0002
- Acute Toxicity Oral < 30% w/w: 1; 607-002-00-6 01-2119475328-30-XXXX
- Acute Toxicity Oral < 3%; 607-003-00-9 01-2119485845-22-XXXX
- Aquatic Ac. 1A: 6007-002-00-6 01-2119475328-30-XXXX
- Aquatic Ac. 1: 6007-003-00-9 01-2119485845-22-XXXX
- Aquatic Ac. 1: 6007-004-00-8 01-2119531330-56-0002

P220: Keep/Store away from combustible materials, amines, strong acids, strong bases, especially in concentrated form, liquid oxygen, nitric acid.
P280: Wear protective gloves, protective clothing and eye or face protection.

Potential health effects:

Vapours by thermal decomposition of the product: Risk of irritation to the respiratory system. May cause respiratory irritation.

Inhalation
Not harmful to skin contact.

Skin Contact
Not harmful.

Eyes Contact
Causes serious eye irritation.

Ingestion

Other hazards

Environmental Effects:

Physical and chemical hazards:

Preparation according to Annex XVII of Reach Regulation abd subsequent amendments: None.

Product Content

Hazardous components which must be listed on the label:

Chemical Identity

- Peroxyacetic acid
- Hydrogen Peroxide
- Acetic Acid

XIII. This substance/mixture contains no components considered to be persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

May be corrosive to metals. Heating may cause a fire. The product can rapidly decompose if heated or mixed with other incompatible chemical compounds (See Section 10). 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.
SECTION 4: FIRST AID MEASURES

In case of incident or if you feel unwell, seek medical advice (Show the label where possible).

4.1 Description of necessary first-aid measures:

Action Immediately. Consult a doctor quickly. Don’t drink or Do not induce vomiting if the patient is unconscious. Under the shower: Take off immediately all contaminated clothing. Including shoes. Risk of ignition. In case of splashes, remove contaminated clothing and plunge it into water immediately. Never give anything by mouth to an unconscious person. If you feel unwell seek medical advice (if possible, show the label). Symptoms of intoxication may appear even after several hours. It is recommended that the injured person remains under medical observation for at least 48 hours after the accident. In case of irregular breathing or respiratory arrest, practice artificial respiration.

General advice:

Inhalation: Take the injured person away from the contaminated area. Move out of dangerous area. If the injured person shows any signs of breathing-insufficiency, give artificial respiration by means of a self-expanding balloon mask (AMBU). Immediate medical attention is required. In case of problems: Hospitalise. Immediately take the injured person to the nearest first-aid post. Show this safety data sheet to the doctor in attendance. Keep under medical surveillance. Immediately call a POISON CENTER or doctor/physician.

In case of eye contact React immediately. Rinse thoroughly with running water, keeping well back from the eyelid from the eye. Immediately take the victim to an ophthalmologist. Do not treat the eye with ointments or oils. Do not use eyewash or ointment of any kind before obtaining an examination or advice. Call a POISON CENTER or physician. Do not treat injured eyes with any ointments or oils. Remove the accidentally contaminated clothes immediately; wash any affected skin area with plenty of lukewarm water and soap. Should there be persistent skin reddening or irritation; take the injured person to the nearest first-aid post for burns treatment. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If skin irritation persists, call a physician.

In case of skin contact

If swallowed Do not induce vomiting. Rinse mouth immediately. Clean mouth with water, if the subject is conscious, and immediately send the victim to the nearest hospital. Get medical attention immediately by calling a physician or a poison control centre. Rinse mouth with water and immediately take him to the nearest first-aid post. Keep respiratory tract clear. Do NOT induce vomiting. Call a physician immediately. Contact a poison control center. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Call a physician immediately. Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Pay attention to perform gastric lavage, Hazard of foam reflux. The ingestion of this corrosive material may result in severe ulceration, inflammation, and possible perforation of the digestive tract, with hemorrhage and fluid loss. Aspiration during induced vomiting can result in severe lung damage. Do NOT induce vomiting. Call a POISON CENTER or physician.

First Aid - Tips

Practical symptoms and effects, both acute and delayed.

Inhalation Vapours by thermal decomposition of the product: Risk of irritation to the respiratory system. May cause respiratory irritation.

Skin Contact Not harmful to skin contact.

Eye contact: Causes serious eye irritation. Not harmful.

Principal symptoms and effects of Overexposure Adverse symptoms may include the following: respiratory tract irritation, coughing. Ingestion: stomach pains. Skin contact: Causes severe skin burns. Eye contact: Causes severe eye damage. It causes severe burns.

If you feel unwell, seek immediate medical attention. In case of possible, show the safety data sheet or product label. Basic first aid (refer to Section 4.1) and symptomatic treatment.

4.2 Indication of immediate medical attention and special treatment needed, if necessary:

Notes to physician: Treat symptomatically. In the case where large quantities have been ingested or inhaled, consult a poison control centre immediately. This material is severely corrosive to the eyes and may cause delayed keratitis. If swallowed, do not induce vomiting. Do rinse the mouth with water and immediately send the victim to the nearest hospital. The ingestion of this corrosive material may result in severe ulceration, inflammation, and possible perforation of the digestive tract, with hemorrhage and fluid loss. Aspiration during induced vomiting can result in severe lung damage. Do NOT induce vomiting. Call a POISON CENTER or physician.

People with diseases of the skin, eyes or pre-existing respiratory may run a greater risk with
respect of the irritant or corrosive properties of this material. Treat any additional effects symptomatically. Contact a poison control center for further treatment information. Attending physician should treat exposed patients symptomatically. Contact a Poison Control Center for additional treatment information.

For more detailed information on health effects and symptoms, see Section 11. Specific Toxicological Information, if available, may be found in section 11.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media: Water Spray, alcohol resistant foam, dry chemical products, powder, CO₂. Fight larger fires with Water Spray or alcohol resistant foam. Always use water as an extinguisher, preferably broken up, keeping windward and at a safe distance. Cool down both the containers which have been involved in the fire and the surrounding area. Do not start cleaning the area or salvaging the goods before the whole area has completely cooled down. In case of product decomposition, this is detectable by the formation of fumes and by containers overheating, cools down with water.

Unsuitable Extinguishing Media: Halones, Water with full jet.

5.2 Special hazards

Special hazards arising from the substance or mixture

Specific hazards: It can promote 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. Oxygen that develops during decomposition can promote combustion in the event of a fire. In case of danger, cool the containers with water spray or water mist. Heating may cause a fire. Do not breathe fumes / vapors. The heat of the fire may decompose the peroxides/products present in the area. Decomposition may occur under effect of heating (See also Section Hazardous decomposition products). If involved in a fire, it will support combustion. The oxygen that develops during the decomposition, can contribute to the combustion in case of fire. In case of fire of if heated a pressure increase into the container will occur, that situation can cause them to burst. The main products of combustion are: Hydrocarbons, Carbon Dioxide, Carbon Monoxide, and Water. The main products of decomposition: Oxygen, see no point 10 - Stability and Reactivity. Exposure to products of combustion or decomposition can cause adverse health effects. Formation of toxic products through combustion.

5.3 Advice for firefighters

Use personal protective equipment. Fire-fighters must wear fire resistant protective equipment. Wear self contained breathing apparatus and appropriate protective clothing including gloves and eye/face protection. Fight fire from a distance (more than 15 m). Cool the containers with water spray or water mist. Use water spray to cool unopened containers. In case of fire, remove all containers exposed to fire. Prohibit all sources of sparks and ignition - Do not smoke. Do not let that the extinguishing media to enter drains or watercourses. Collect contaminated fire extinguishing water separately. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Special protective devices (see also section 8):

Use protection for the respiratory tract. Wear full fire prevention gear. The firefighters must always wear the complete equipment of fire protection: Use full mask with filter type A for gases / vapors [Ref. EN 143] or breathing apparatus with air supply [Ref. EN 317]; fireproof clothing [Ref. EN 469]; boots firefighters [Ref. HO A29-A30]; fireproof gloves [Ref. EN 659]. Protective measures to be taken: Fire can be done without risk. Alternatively, cool the containers in order to avoid overheating (excessive increase in pressure can cause the outbreak) and the development of fumes/gases/vapors irritating/toxic. Damaged containers should only be handled by experienced, trained and licensed staff. If possible, operate windward and safety distance, using hoses, or automatic fire extinguishing systems with nozzles positioned above the containers. Prevent the contaminated extinguishing water from flowing into drains or waterways. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Additional information

Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water. Cool the containers with water spray or water mist. Cool closed containers with water, keeping windward and at a safe distance. Combustion products. Carbon oxides. Fire will produce smoke containing hazardous combustion products (see section 10).

Fire and explosion hazard

CAUTION: reignition may occur. Decomposition under effect of heating (See also Section Hazardous decomposition products). If involved in a fire, it will support combustion. In case of fire of if heated a pressure increase into the container will occur, that situation can cause them to burst. The main products of combustion are: Hydrocarbons, Carbon Dioxide, Carbon Monoxide, and Water. Combustion may produce acetic acid, irritating vapors and oxygen. Combustion or thermal decomposition will evolve toxic and irritant vapours. Decomposition/Combustion products may include the following materials: Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Oxides of phosphorus, Carbon Dioxide, Carbon Monoxide, and Water.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and procedures during an emergency. Ensure adequate ventilation. Do not breathe dust or vapour. Use suitable protective clothing and gloves and protect eyes / face. Protective equipment: Wear protective clothing, gloves and eye / face protection. Wear a recommended respirator. Avoid contact with skin and eyes. Do not breathe gas / fumes /
If spillage occurs on the ground, signal the danger and prevent local authorities. Ensure adequate ventilation. Avoid inhalation, ingestion and contact with skin and eyes. Keep people and upwind of spill/leak. Use personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment. For non-emergency workers: Remove from the affected area people not involved in the emergency. Alerting inside emergency workers or firefighters. In case of an immediate action is needed to refer to the guidelines/instructions for emergency workers. For emergency workers: Wear an appropriate Personal Protective Equipment: Breathing apparatus with air reserve or full-face gas mask with filter (AEBK). Wear suitable protective clothing (Acid Proof). Stop leak and sources of ignition if you can do it without risk. Provide adequate ventilation. Keeping windward and at a safe distance. Avoid coming into contact with the substance or handling containers without adequate protection. Use water spray to reduce vapours or to redirect the movement of the cloud. Segregate the area until complete dispersion of the substance. If possible, operate windward and safety distance, using hoses, or automatic fire extinguishing systems with nozzles positioned above the containers. Avoid contact with ignition sources. Avoid direct contact with the product and do not breathe fumes or vapours. Use personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment full-face gas mask with filter (AEBK). Use the personal protective equipment described in paragraph 8.

6.2 Environmental precautions
Avoid direct discharge into the sewer, in surface water and in the groundwater. Do not allow contact with soil, surface or ground water. Do not release into the environment. Do not let product enter drains. Dilute with plenty of water. If the product contaminates rivers and lakes or drains inform respective authorities in accordance with local laws. Do not allow to enter sewers/ surface or ground water. Do not contaminate water with the material. Do not contaminate surface water. In case of large spillage the environment must be cleaned. Soak up with absorbent material (e.g. Vermiculite), inform environmental authority and dispose of in accordance with government regulations. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). See section 8.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up: Stop leak if safe to do so. Contain spillage, and then collect with non- combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Collect the spilled material and absorbent non-combustible (perlite, vermiculite, or sand) in open containers and clean polyethylene and/or polyethylene buckets. Do not use rags, sawdust, paper or other combustible/flammable materials (danger of spontaneous combustion). Keep contents moist. The residues should not be collected in closed containers. Confinement must be avoided. Never return spills in original containers for re-use. The re-use is not recommended. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Don’t use for absorption sawdust or other combustible material. After collection, aerate and wash the affected area with water, neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide, before granting access. Large amounts must be diluted with appropriate agents before being sent to disposal. Recovery: Never return spills to original containers for re-use. Shovel into suitable container for disposal. For small leaks: Soak up with inert absorbent material. Do not confine. Elimination: See chapter 13. For emergency contact information, see Section 1. See Section 8 for information on personal protective equipment and section 13 for waste disposal. See Sections 07, 08, 11, 12 and 13.

6.4 Reference to other sections

SECTION 7: HANDLING AND STORAGE

The information listed in this section contains generic advice and guidance. Refer to the list of Identified Uses in Section 1 for specific information available in the given scenario or exposure scenarios.

7.1 Precautions for safe handling
Advice on safe handling

Apply the legislation regarding the Industrial Hygiene/Safety job. Handle in accordance with good industrial hygiene and safety practice. During the operation use the individual protective devices. See section 8. Prohibit all sources of sparks and ignition - Do not smoke into the working area during the handling and the storing of the product. Do not eat, drink or smoke while handling it. Avoid: Direct contact with skin and eyes; inhalation of the vapors and fumes. Handle in well ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid any kind of loss and/or leakage. Keep container tightly sealed. Do not mix/pollute with other substances that may cause its decomposition. Protect from contamination. Cure scrupulously cleaning of the containers used for picking up and transferring. Use only very clean containers and equipment free from traces of impurities. Never return any product to the container from which it was originally removed (risk of decomposition). Handle and open container with care (risk of overpressurization in containers). Provide appropriate exhaust ventilation at machinery. Do not reuse empty container before they have been subjected to cleaning. Before performing transfer operations make sure that the tank does not contain residues of incompatible substances. Storage and handling precautions applicable to products: Organic Peroxides Liquid, Corrosive, Harmful, Very toxic to aquatic life with long lasting effects. Provide appropriate exhaust ventilation at machinery. Provide showers, eye-baths. Provide water supplies near the point of use. Provide self-contained breathing apparatus nearby. Provide fire-blanket nearby. In case of insufficient ventilation, wear suitable respiratory equipment. Take off immediately all contaminated clothing. Do not contact with skin and eyes and inhalation of vapours. Wash hands after handling. Remove contaminated clothing and
7.2 Conditions for safe storage, including any incompatibilities

Restricting access to unauthorized persons. Pay attention to the special requirements of local authorities for handling and storing dangerous goods. Store in accordance with local and national legislation. Keep only in the original container. Keep container upright to prevent leakage. Keep container tightly sealed. For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5. The Suitable materials which can bear the contact with peroxides, and which are consequently suitable for the construction of peroxides containers, dispensers, etc., are glass or ceramic, polyethylene, High density polyethylene (HDPE), Polytetrafluoroethylene (PTFE), polyvinylidene difluoride (PVDF). Stainless steel, AISI 304 or 316 stainless steel, the latter before use must be suitably pickled and passivated. To be avoided: Ordinary metals (ordinary steel), copper, rubber (natural or synthetic), Glass - Stoneware (risk of contents spurting or spraying out if container ruptures due to overpressurization). Recommended: High density polyethylene. See also section 8 to refer to the recommended devices. See Section 10.

In order to keep the product characteristics unaltered for a long time:
- Store in a cool, well ventilated position. Keep away from sources of ignition (steam lines, naked flames, sparks, direct sunlight, etc.);
- Store separate from other chemicals.
- Storage period: > 12 Months, Storage temperature: < 30 °C (to maintain the technical properties of the product);
- Storage temperature: T > - 10°C T < 30°C.

Incompatible products/Substances: Iron, Copper, Brass, Bronze, Aluminium, Zinc, Strong bases, oxidizing agents, powdered metals, strong oxidizing agents, metals, amines, strong acids, reducing agents, heavy metals, organic materials, alcohols, Peroxides, permanganates, such as potassium permanganate, Nickel, Brass, iron and iron salts, strong reducing agents, soluble phosphates and carbonates, hydroxides, Acetone, Sulphur compounds, heavy metal compounds (risk of self-accelerating exothermic decomposition). Accelerators, driers, metal soaps. See also section 8 to refer to the recommended devices. See Section 10. For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end uses:

Apart from the uses described in section 1.2 no other specific uses are covered. Recommendations: Observe instructions for use. Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Occupational exposure limits

PERACETIC ACID CAS 79-21-0

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EH40 WEL</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ACGIH (US)</td>
<td>2012</td>
<td>TLV-ST</td>
<td>0.4 ppm</td>
<td>1.24 mg/m³</td>
</tr>
</tbody>
</table>

ACETIC ACID CAS 64-19-7

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH (US)</td>
<td>–</td>
<td>STEL</td>
<td>15 ppm</td>
<td>–</td>
</tr>
<tr>
<td>ACGIH (US)</td>
<td>–</td>
<td>TWA</td>
<td>10 ppm</td>
<td>25 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td>–</td>
<td>IDLH</td>
<td>50 ppm</td>
<td>–</td>
</tr>
</tbody>
</table>

Source: ACGIH
**Material Safety Data Sheet**

**HYDROGEN PEROXIDE CAS 7722-84-1**

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEL (IT)</td>
<td>2009</td>
<td>TWA</td>
<td>1</td>
<td>1,4</td>
</tr>
<tr>
<td>ACGIH (US)</td>
<td>02 2012</td>
<td>TWA</td>
<td>1</td>
<td>1,4</td>
</tr>
</tbody>
</table>

**ACETIC ACID CAS 64-19-7**

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2012</td>
<td>TWA</td>
<td>0,6</td>
<td>0,6</td>
</tr>
</tbody>
</table>

**PERACETIC ACID CAS 79-21-0**

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2009</td>
<td>TWA</td>
<td>0,6</td>
<td>0,6</td>
</tr>
</tbody>
</table>

**SULFURIC ACID CAS 7664-93-3**

<table>
<thead>
<tr>
<th>Source</th>
<th>Date</th>
<th>Value Type</th>
<th>Value (ppm)</th>
<th>Value (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2012</td>
<td>TWA</td>
<td>0,6</td>
<td>0,6</td>
</tr>
</tbody>
</table>

**Biological limit values**

**PERACETIC ACID CAS 79-21-0**

No biological limit value for exposure

**ACETIC ACID CAS 64-19-7**

No biological limit value for exposure

**HYDROGEN PEROXIDE CAS 7722-84-1**

No biological limit value for exposure

**PNECS - PREDICTED NO EFFECT CONCENTRATION**

<table>
<thead>
<tr>
<th><strong>PERACETIC ACID</strong></th>
<th><strong>ACETIC ACID</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC fresh water (mg/l)</td>
<td>0,094 μg/L</td>
</tr>
<tr>
<td>PNEC sediment fresh water (mg/kg)</td>
<td>11,36 mg/kg</td>
</tr>
<tr>
<td>PNEC marine water (mg/l)</td>
<td>0,094 μg/L</td>
</tr>
<tr>
<td>PNEC sediment marine (mg/kg)</td>
<td>0,00018 mg/l</td>
</tr>
<tr>
<td>Intermittent releases to water</td>
<td>Rapid Degradation</td>
</tr>
<tr>
<td>PNEC Sewage Treatment Plant (mg/l):</td>
<td>0,051 mg/l</td>
</tr>
<tr>
<td>PNEC soil (mg/kg):</td>
<td>320 μg/kg soil dw</td>
</tr>
</tbody>
</table>

**PNECS - PREDICTED NO EFFECT CONCENTRATION**

<table>
<thead>
<tr>
<th><strong>HYDROGEN PEROXIDE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC fresh water (mg/l)</td>
</tr>
<tr>
<td>PNEC sediment fresh water (mg/kg)</td>
</tr>
<tr>
<td>PNEC marine water (mg/l)</td>
</tr>
<tr>
<td>PNEC sediment marine (mg/kg)</td>
</tr>
<tr>
<td>Intermittent releases to water</td>
</tr>
<tr>
<td>PNEC Sewage Treatment Plant (mg/l):</td>
</tr>
<tr>
<td>PNEC soil (mg/kg):</td>
</tr>
</tbody>
</table>

**Exposure controls**

Use personal protective equipment compliant with the standards of European and national regulations. In any case, consult the vendor before making a definitive decision on the devices to be fitted. The following information relates to uses in subsection 1.2. For handling and application instructions refer to the product information sheet, if available. For this section, normal operating conditions are assumed. Recommended Safety Measures for Pure Product Handling: Including activities such as filling and transferring products to use equipment, vials or containers. If the product is diluted using specific metering systems without

---

**TLV** - Threshold Limit value; TWA - Time Weighted Average; STEL - Short Term Exposure Limit; ACGIH - American Conference of Governmental Industrial Hygienists. OEL(EU): Occupational Exposure Limit (EU). The information in this section contains generic advice and guidance. Refer to the list of Identified Uses in Section 1 for specific information available in the given scenario or exposure scenarios.

**PNEC** - Predicted No Effect Concentration; SE - Short Term; LE - Long Term; ST - Soil; LT - Water.

**ACGIH** - American Conference of Governmental Industrial Hygienists.

**CLP** - Classification and Labelling of Substances and Mixtures.
splashing or direct contact with the epidermis, the personal protective means as described in this section may be attenuated. Avoid direct contact and / or sketching whenever possible. Train the staff.

General protective measures:

Provide sufficient air exchange and/or exhaust in work rooms. Use personal protective equipment conforming to the standards required for protection. Consult in each case the supplier before making a final decision on which acquire devices. In case of insufficient ventilation it is necessary to make use of appropriate respiratory protection of the respiratory tract. In normal conditions of use and the conditions for the use of the product protective equipment is not needed.

In some situations, such as a sprayer application in industrial areas, respiratory protection equipment is needed (eg. Facial mask with NO type cartridge). Check Exposure scenarios if they are available. Use suitable respiratory device when it exceeds the concentration rate in the air at a low level. It must be ensured good local ventilation and a good system of air supply. If these measures are not sufficient to maintain concentrations of vapours below the exposure limit, it is necessary to make use of appropriate respiratory protection of the respiratory tract. In case of insufficient ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Professional Exposure controls.

Technical Measures.

Use in closed processes (for example transfer in closed circuit). The working area shall be provided with suitable ventilation system in order to keep the product concentration rate in the air at a low level. It must be ensured good local ventilation and a good system of air supply. If these measures are not sufficient to maintain concentrations of vapours below the exposure limit, it is necessary to make use of appropriate respiratory protection of the respiratory tract. Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Proper protective equipment:

Skin/Body protect (EN 14605)

Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing. Suitable protective footwear. Remove contaminated clothing and wash before re-use.

Gloves with adequate chemical resistance tested to EN374 and with specific activity training. Carry out a basic training of staff so that exposure is minimized and you can report any skin problems. Check the instructions regarding permeability and breakthrough time, indicated by the supplier of the gloves. Consider that due to several factors, such as temperature and the conditions of use, the breakthrough time can vary from those indicated in the standard. Skin Protection Effectiveness: 95%. Material: butyl rubber (0.5 mm > 8h), neoprene, Nitrile Rubber, glove thickness: 0.5 mm Breakthrough time: > 8 h (98% protection). Suggested gloves for prolonged contact: Material: butyl-rubber Break through time: > 480 min. Material thickness: > 0.7 mm. Suggested gloves for protection against splashes: Material: Nitrile rubber Break through time: > 30 min. Material thickness: > 0.4 mm. Check status before using. Avoid contact with eyes and skin and wear suitable protective gloves when handling and check their condition before use. Gloves should be replaced immediately if there is a noticeable degradation phenomenon. Remarks: After contact clean skin carefully. Rinse off any skin contamination immediately. Avoid direct contact with the product. Identify potential areas for indirect skin contact. Wear suitable gloves (EN374) if hand contact with substance is likely. Remove impurities/spills as soon as they arise.

Hand protection (EN 374)

Eye/Face protection (EN 166)

Wear sealed safety glasses (EN166) and/or face shield during manipulation/transfer. The use of a full-face mask or other full-face protection is strongly recommended when handling open containers or in case there is the possibility of splashing. Install emergency eye sources close to the Area of Use. Provide showers, eye-baths. Provide water supplies near the point of use.

Respiratory protection (EN 141, EN 143, 14387)

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, 89/686/EEC), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or if by measures, methods or procedures of work organization. In case of insufficient ventilation in case of insufficient ventilation or during emergency, wear suitable respiratory equipment: Use breathing apparatus or masks with type “A” filter. Filters for gases / vapors EN141. In normal conditions of use and the conditions for the use of the product respiratory protection equipment is not needed. In some situations, such as a sprayer application in industrial areas, respiratory protection equipment is needed (eg. Facial mask with NO type cartridge). Check Exposure scenarios if they are available. Use suitable respiratory device when it exceeds the concentration rate in the air at a low level. It must be ensured good local ventilation and a good system of air supply. If these measures are not sufficient to maintain concentrations of vapours below the exposure limit, it is necessary to make use of appropriate respiratory protection of the respiratory tract. In case of insufficient ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures


Use in closed processes (for example transfer in closed circuit). The working area shall be provided with suitable ventilation system in order to keep the product concentration rate in the air at a low level. It must be ensured good local ventilation and a good system of air supply. If these measures are not sufficient to maintain concentrations of vapours below the exposure limit, it is necessary to make use of appropriate respiratory protection of the respiratory tract. Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors.
### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unit of measure</th>
<th>Declared value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Appearance: – Physical state (20°C) 1013 hPa</td>
<td>-</td>
<td>Liquid, colourless, Clear</td>
</tr>
<tr>
<td>b Odour</td>
<td>-</td>
<td>Pungent, Distinctive, vinegar-like</td>
</tr>
<tr>
<td>c Offactory threshold:</td>
<td>-</td>
<td>Not applicable and/or not determined for the mixture</td>
</tr>
<tr>
<td>d pH</td>
<td>-</td>
<td>Acide (pH &gt; 2.0)</td>
</tr>
<tr>
<td>e Melting point/range</td>
<td>°C</td>
<td>- 26°C to - 30°C. (Peracetic Sol. 5%)</td>
</tr>
<tr>
<td>f Boiling point/boiling range</td>
<td>°C</td>
<td>+ 99°C to + 105°C. (Peracetic Sol. 5%)</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td>°C</td>
<td>103</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE Flash point</td>
<td>°C</td>
<td>150.2</td>
</tr>
<tr>
<td>g Evaporation rate</td>
<td>°C</td>
<td>Closed Cup:  &gt; 80°C - ASTM D3278. EU Method A.9</td>
</tr>
<tr>
<td>h Flammability: solid, gas</td>
<td></td>
<td>&gt; 1 (n-butyl acetate=1)</td>
</tr>
<tr>
<td>i Flammability Liquids</td>
<td></td>
<td>Not applicable and/or not determined for the mixture</td>
</tr>
<tr>
<td>j Lower explosive limit/ Upper explosive limit</td>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k Vapour pressure</td>
<td>hPa</td>
<td>&gt; 14 hPa, a 20 °C</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td></td>
<td>1500 Pa, a 20 °C</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td></td>
<td>214 Pa, a 20 °C</td>
</tr>
<tr>
<td>l Vapour Density</td>
<td></td>
<td>Not applicable and/or not determined for the mixture</td>
</tr>
<tr>
<td>m Density</td>
<td>d 20/20</td>
<td>1,030–1,040 (APASAFE - Sol. &lt; 0,2% w/w.)</td>
</tr>
<tr>
<td>n Solubility: Water</td>
<td></td>
<td>Fully miscible</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td></td>
<td>Fully miscible</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o Partition coefficient: n-octanol/water</td>
<td>Logkow/LogPow</td>
<td></td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td>log Pow</td>
<td>pH 7: - 0,60</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td>log Kow</td>
<td>&gt; -1</td>
</tr>
<tr>
<td>p Auto-ignition temperature:</td>
<td>°C</td>
<td>&gt; 430°C</td>
</tr>
<tr>
<td>q Decomposition temperature SADT</td>
<td>°C</td>
<td>&gt; 65°C</td>
</tr>
<tr>
<td>r Viscosity OECD 114 (Viscosity of Liquids)</td>
<td>mm²/s</td>
<td>1,500 mm²/s Dynamic - 1.22 mm²/s (Static) (Sol. 5%)</td>
</tr>
<tr>
<td>s Explosive properties:</td>
<td></td>
<td>Not explosive</td>
</tr>
<tr>
<td>t Oxidizing properties:</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Dissociation constant pKa 20°C</td>
<td>pKa</td>
<td>8,24 (Sol. 15%)</td>
</tr>
<tr>
<td>PERACETIC ACID</td>
<td></td>
<td>4,8</td>
</tr>
<tr>
<td>ACETIC ACID</td>
<td></td>
<td>11,75</td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 9.2 Other information

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unit of measure</th>
<th>Declared value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SADT (Self Accelerated Decomposition Temp)</td>
<td>°C</td>
<td>&gt; 65°C</td>
</tr>
<tr>
<td>Surface Tension</td>
<td>mN/m at 20°C</td>
<td>54 (Peracetic Sol. 5%) at 20°C</td>
</tr>
<tr>
<td>Henry’s law constant</td>
<td>Pa m² mol⁻¹</td>
<td>0,217 Pa m² mol⁻¹</td>
</tr>
<tr>
<td>COV Content</td>
<td></td>
<td>VOC - EU &lt; 35,0 g/l</td>
</tr>
<tr>
<td>Active oxygen content</td>
<td>%</td>
<td>3,40% w/w</td>
</tr>
<tr>
<td>Peracetic Acid content</td>
<td>%</td>
<td>≤ 0,20 %</td>
</tr>
<tr>
<td>Shell-life</td>
<td>%</td>
<td>&gt; 12 Months</td>
</tr>
<tr>
<td>n-Heptane: &lt; 10 g/l, P-Xylene: &lt; 10 g/l, 1,2-Dichloroethane: &lt; 10 g/l, Propan-2-ol: &gt; 500 g/l, Acetone: &gt; 500 g/l, Ethyl acetate: 20-25 g/l, See point 10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This safety datasheet only contains information relating to safety and does not replace any product information or product specification. The above-mentioned physicochemical properties values are typical values for the product and therefore do not need to be considered as data regarding product specifications. The data in this MSDS is solely for safety information and does not replace any information on the specifications of the product itself.
SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended storage conditions. The product is stable under normal handling and storage conditions. This product can react quickly and violently when mixed with incompatible chemicals or heated. Do not mix directly with metal salts, promoters, acids ans bases especially in concentrated form, reducing agents, organic and flammable substances. Do not mix with bleach or other chlorinated products – will cause chlorine gas. Store away from chlorinated products or sulfites. Contact with incompatible materials such as acids, alkalies, heavy metals and reducing agents will result in hazardous decomposition. Reactive and oxidizing agent. Organic peroxide.

10.2 Chemical stability
Stable under recommended storage conditions. Under the recommended conditions of storage and handling the product is stable for at least 12 months from date of production. No decomposition if used and stored according to specifications. No decomposition is evident if the product is used and stored, following the specifications. The contact with incompatible substances can cause decomposition. To maintain quality store in original closed container below: 30°C. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the following temperature: 60°C (SADT). Contact with incompatible Substances can cause decomposition at or below the SADT value.

10.3 Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use. May produce explosive reactions with Acetic Anhydride. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition. The product is stable under normal storage and use conditions, in this case hazardous reactions will not occur. It can rapidly decompose if heated or mixed with other incompatible chemical compounds (risk of exothermic decomposition). It is therefore necessary to avoid the product coming into contact with all kinds of metallic salts; promoters; acids and alkalis, especially if in a concentrated form; any reducers and all organic and flammable compounds. Stable under recommended storage conditions. In case of decomposition is observed increase of temperature and emission of fumes. The oxygen that develops during the decomposition, in the event of fire, may support the combustion of flammable/combustible substances. In case of fire of if heated a pressure increase into the container will occur, that situation can cause them to burst.

10.4 Conditions to avoid:
To avoid thermal decomposition do not overheat. Store at temperatures not exceeding 30°C. Keep away from heat and direct sunlight. The product can decompose rapidly when mixed with incompatible chemicals or heated. It is therefore necessary to avoid the product coming into contact with all kinds of metallic salts; acids and alkalis, especially if in a concentrated form; any reducers and all organic and flammable compounds. Strong oxidizing agents, Powerful reducers, Strong acids, strong bases, Sulphur compounds, heavy metal compounds, heavy metals, rust, Ash, dusts (risk of self-accelerating exothermic decomposition), Acetone, Possible formation of: explosive compounds or those sensitive to impact. Do not mix with peroxide accelerators. Avoid contact with rust, iron and Metals. Store in a well ventilated place away from sources of heat and direct sunlight. Use, only, compatible materials listed at point 7. Confinement must be avoided. Heat, flames and sparks.

10.5 Incompatible materials
Contact with incompatible materials will result in hazardous decomposition. For queries regarding the suitability of other materials please contact the supplier. Do not mix with peroxide accelerators, unless under controlled processing. Use only stainless steel 316, PP, polyethylene or glass-lined equipment. It is therefore necessary to avoid the product coming into contact with all kinds of metallic salts; acids and alkalis, especially if in a concentrated form; any reducers and all organic and flammable compounds. Strong oxidizing agents, Powerful reducers, Strong acids, strong bases, Sulphur compounds, heavy metal compounds, heavy metals, rust, Ash, dusts (risk of self-accelerating exothermic decomposition), Follow conditions of use with: accelerators (amines, metallic salts), Acetone, Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals, such as iron, copper, chromium, nickel, aluminum and cobalt. Possible formation of: explosive compounds or those sensitive to impact. Do not mix with peroxide accelerators. Avoid contact with rust, iron and Metals. Store in a well ventilated place away from sources of heat and direct sunlight. Use, only, compatible materials listed at point 7. Confinement must be avoided. Heat, flames and sparks.

10.6 Hazardous decomposition products
Decomposition products may include the following materials: Hazardous decomposition products: Oxygen, corrosive gases/vapors, Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus, acetid acid, carbon dioxide, carbon monoxide. Liable to produce overpressure in container. Acetic acid and oxygen that supports combustion. The release of other hazardous decomposition products is possible. Decomposition under the influence of heat. If involved in a fire, it will support combustion. In case of fire and/or explosion do not breathe fumes/vapours. The oxygen that develops during the decomposition, in the event of fire, may contribute to the combustion of flammable substances. In case of fire of if heated a pressure increase into the container will occur, that situation can cause them to burst.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects. All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment. Due to its composition and Based on the available information: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Oral: Not Harmful if swallowed. ATE (oral route): ATE (via Oral): 4915 mg/kg bw. Dermal: Not Harmful if in contact with skin. ATE...
Material Safety Data Sheet
complying with Regulation 1907/2006/EC (REACH Regulation),
EU 2015/830 and Regulation No 1272/2008/EC (CLP)

Release date: 01.03.2016
Revision n° 04 date 01.09.2017

APABIO

(Dermal): 22440 mg/kg bw. Inhalation: Not Harmful by inhalation. ATE (Inhalation): 16,00 mg/l/4h. The toxicity data of the individual components of the preparation are:

PERACETIC ACID - PEROXYACETIC ACID CAS 79-21-0

a

Acute toxicity - Inhalation

LC50 Inhalation (total dose - rat) > 500 mg/m² 4h (PAA 15%) - EPA OPP 81-3

ATE value 0,204 mg PAA/l

315 mg/Kg bw - 56.1-229 mg PAA/kg bw.

Acute toxicity - Oral

LD50 Oral (total dose - rat) 1147 and - 1957 mg/kg bw

ATE value of 85 mg/kg bw

Acute toxicity - Dermal

LD50 Skin (total dose - rat) > 1900 mg/Kg bw (PAA 12%) - EPA OPP 81-2

ATE value of 56.1 mg/kg bw

b

b

Loco effects (Corrosion / Irritation / Serious Skin damage): Skin

(rabbit)

Corrosive to skin. Causes burns, Irritating.

c

Loco effects (Corrosion / Irritation / Serious eye damage): Eye

(rabbit)

Corrosive - Causes burns, Extremely Irritating.

d

Respiratory or skin sensitisation:

According to its composition, can be considered as: Not a skin sensitizer

e

Mutagenicity:

No adverse effect Observed (Negative).

f

Carcinogenicity:

No adverse effect Observed (Negative).

g

Reproductive toxicity:

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:

STOT SE 3, H335, C ≥ 1% Respiratory Tract.

Specific target organ toxicity STOT:

Repeated exposure:

No data available.

i

Aspiration hazard:

No data available. No aspiration toxicity classification.

Potential Acute Health Effects: Inhalation: Irritating to respiratory system. This product causes the tissue of the mucous membranes and upper respiratory tract. Ingestion: Harmful if swallowed. May cause burns to mouth, throat and stomach. Skin Contact: Severely corrosive to the skin. Harmful in contact with skin. Contact with eyes: May cause irreversible eye damage. Severe eye irritation. Signs and Symptoms of Exposure: Inhalation: Respiratory tract irritation, coughing. Ingestion: stomach pains. Skin Contact: pain or irritation, blush, possible formation bladders. Corrosive to skin. Contact with eyes: May cause irreversible eye damage. Severe eye irritation. Pain, tearing, redness.

Other information

No data available.

ACETIC ACID – ETANOIC ACID CAS 64-19-7

a

Acute toxicity - Inhalation

LC50 Inhalation (total dose - rat) > 16000 ppm 4h (Acetic Acid) > 200 ppm 1h

ATE value of 11,400 mg/l/4h

LD50 3310 mg/kg – LD50 4960 mg/kg

Acute toxicity - Oral

LD50 Oral (total dose - rat) ATE value of 3310 mg/kg bw ATE (vapeurs) ATE (poussière,brouillard)

Acute toxicity - Dermal

LD50 Skin (total dose - rat) > 1900 mg/Kg bw (Acetic Acid)

ATE value of 1060 mg/Kg bw

b

Loco effects (Corrosion / Irritation / Serious Skin damage): Skin

(Guinea pig)

Corrosive C > 25% w/w

c

Loco effects (Corrosion / Irritation / Serious eye damage): Eye

(Guinea pig)

Corrosive C > 25% w/w

d

Respiratory or skin sensitisation:

Not a skin sensitizer. No Sensitization is possible.

e

Mutagenicity:

No adverse effect Observed (Negative).

f

Carcinogenicity:

No adverse effect Observed (Negative).

g

Reproductive toxicity:

Based on the available data, the substance is not suspected of having reprotoxic potential.

h

Specific target organ toxicity STOT:

Single exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

i

Specific target organ toxicity STOT:

Repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

j

Aspiration hazard:

No aspiration toxicity classification.

Potential Acute Health Effects: Inhalation: Irritating to the respiratory tract. Can cause inflammation and pulmonary edema, especially if inhaled in aerosol form. Ingestion: Causes burns to mouth, throat and stomach burns to mucous membranes. Skin Contact: Causes severe burns. Eye Contact: Causes severe eye damage. Signs and Symptoms of Exposure: Inhalation: Inhalation of vapor or aerosols may cause irritation of the respiratory tract, inflammation of the respiratory tract and pulmonary edema. Ingestion: Ingestion may cause bleeding of the mucous membranes of the mouth, esophagus and stomach. Skin Contact: Causes chemical burns. With increasing duration of contact may occur...
redness or severe local irritation (whitish spots) until the formation of bubbles (corrosion). *Eyes Contact*: strong irritant effect until a corrosive effect. Liquid and mist are corrosive and can cause burns, direct contact could cause irreversible damage to eyes including blindness and/or irreversible destruction of skin tissue. Vapor/mist will irritate the nose, throat and lungs, but will usually subside when exposure ceases. The severity of the effects depends in the concentration and dose.

**Other Information**

No data available

### HYDROGEN PEROXIDE – ACQUEOUS STABILIZED SOLUTION

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a</strong></td>
<td>Acute toxicity - Inhalation</td>
<td>LC50 Inhalation (oral dose - rat)</td>
</tr>
<tr>
<td><strong>b</strong></td>
<td>Local effects (Corrosion / Irritation / Serious damage): Skin</td>
<td>(rabbit)</td>
</tr>
<tr>
<td><strong>c</strong></td>
<td>Local effects (Corrosion / Irritation / Serious eye damage): Eye</td>
<td>(rabbit)</td>
</tr>
<tr>
<td><strong>d</strong></td>
<td>Respiratory or skin sensitisation:</td>
<td>(Guinea pig)</td>
</tr>
<tr>
<td><strong>e</strong></td>
<td>Mutagenicity:</td>
<td></td>
</tr>
<tr>
<td><strong>f</strong></td>
<td>Carcinogenicity:</td>
<td></td>
</tr>
<tr>
<td><strong>g</strong></td>
<td>Reproductive toxicity:</td>
<td></td>
</tr>
<tr>
<td><strong>h</strong></td>
<td>Specific target organ toxicity STOT:</td>
<td></td>
</tr>
<tr>
<td><strong>i</strong></td>
<td>Single exposure:</td>
<td>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).</td>
</tr>
<tr>
<td><strong>j</strong></td>
<td>Aspiration hazard:</td>
<td></td>
</tr>
</tbody>
</table>

**Potential Acute Health Effects**: Inhalation: It can send forth gas vapors that are very irritating for the respiratory system, irritating to the respiratory tract and which can cause inflammation and pulmonary edema, especially if inhaled in aerosol form. Harmful by inhalation. *Ingestion*: Causes burns to mouth, throat and stomach burns to mucous membranes of the mouth, oesophagus and stomach. Harmful if swallowed. Rapid liberation of oxygen, Risk of expansion of the stomach and hemorrhage with possibility of serious lesions, deadly Risk. *Skin Contact*: Causes severe burns. Corrosive. *Eyes Contact*: Causes severe eye damage. Corrosive.

**Signs and Symptoms of Exposure**: Inhalation: Respiratory tract irritation, cough, dizziness, and sore throat. *Ingestion*: stomach aches, damage to organs. *Skin Contact*: pain or irritation, erythema, necrosis. *Eyes Contact*: irreversible damage.

**Other Information**

No data available
For more information on the hazardous components to health, see step 2 and 8. Not Applicable Added indication when a chemical / Physics / Toxicology is not adequate to the chemical nature of the substance. Added indication not available when a chemical / Physics / Toxicology has not been determined experimentally, or when the data in the literature do not provide information on the substance / mixture tested. The EC Regulation 1907/2006 and EC 453/2010 Reach establish that the information entered in this section must be in line with those provided in the registration dossier to ECHA.

### SECTION 12: ECOLOGICAL INFORMATION

Use this product appropriately, according to the good working practices, and avoid product dispersion in the environment (see also section 6, 7, 13, 14 et 15). Environmental Effects: Harmful to fish. Harmful to daphnia. Toxic to algae. Readily biodegradable. Practically not bioaccumulating. Harmful to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. The risks to the aquatic environment are related, also, to the acidification of the medium by lowering the pH value. The available EcoToxicity data about single components of the preparation, are as follows:

### PERACETIC ACID - PEROXYACETIC ACID CAS 79-21-0

#### 12.1 Acute toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50, mg/l (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 bacteria (streptococcus fec. 60m)</td>
<td>50</td>
</tr>
<tr>
<td>EC50 Algae (Selenastrum capric. 72h)</td>
<td>0.16 (PAA 5%)</td>
</tr>
<tr>
<td>EC50 crustaceans (Daphnia magna 48h)</td>
<td>0.73 (PAA 5%)</td>
</tr>
<tr>
<td>LC50 fish (Oncorhynchus mykiss 96h)</td>
<td>0.53</td>
</tr>
<tr>
<td>Acute toxicity ErC10 fish (Raphidocelis subcapitata)</td>
<td>2.1 mg/l - OECD TG 201</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradation

- **NOEC (chronic Toxicity Fish)**: 0.001 mg/l (0.001 - 0.001) mg/l
- **读** Biodegradable 87% after 28 d (Method: OECD 301D (Closed bottle test)). Peroxetic acid is completely miscible with water. Aqueous solutions of peracetic acid are hydrolyzed in acetic acid and hydrogen peroxide. The product is biodegradable.

#### 12.3 Bioaccumulation potential

- **Partition coefficient**: n-octanol/water: log Kow : < 0.3 (OECD 117)
- **Not bioaccumulative**: 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

- **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

- **According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.**

#### 12.6 Other information

- **In the environment there is a rapid hydrolysis, Reduction or decomposition. It not contains Substances that deplete the ozone layer.**

### ACETIC ACID – ETANOIC ACID CAS 64-19-7

#### 12.1 Acute toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50, mg/l (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 bacteria (Anabaena flos-aquae 72h)</td>
<td>55.22 mg/l</td>
</tr>
<tr>
<td>EC50 Algae (Selenastrum capric. 72h)</td>
<td>&gt; 300 mg/l</td>
</tr>
<tr>
<td>EC50 crustaceans (Daphnia magna 48h)</td>
<td>&gt; 300 mg/l</td>
</tr>
<tr>
<td>LC50 fish (Oncorhynchus mykiss 96h)</td>
<td>&gt; 300 mg/l</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradation

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

#### 12.3 Bioaccumulation potential

- **Not bioaccumulative - log Pow= < 1 (- 0.17).** BCF 3.16.

#### 12.4 Mobility in soil

- **Soil Koc 1,153**

#### 12.5 Results of PBT and vPvB assessment

- **According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.**

#### 12.6 Other information

- **It not contains Substances that deplete the ozone layer.**

### HYDROGEN PEROXIDE AQUEOUS SOLUTION - CAS 7722-84-1

#### 12.1 Acute toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50, mg/l (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static test Skeletonema costatum (Algae)</td>
<td>466 mg/l - 30 min (HP100%)</td>
</tr>
<tr>
<td>Acute toxicity CE50 Skeletonema costatum (Algae)</td>
<td>1,38 mg/l (growth rate) Marine environment</td>
</tr>
<tr>
<td>Acute toxicity CE50 Skeletonema costatum (Algae)</td>
<td>2,62 mg/l (HP 100%), 72 h</td>
</tr>
<tr>
<td>Acute toxicity CE50 Crustaceae (Daphnia pulex 48h)</td>
<td>2,40 mg/l, water, Semiatic (HP100%)</td>
</tr>
<tr>
<td>NOEC Flow-through test with Daphnia M. (Crustaceans)</td>
<td>0,63 mg/l - 21 d (HP100%)</td>
</tr>
<tr>
<td>Acute toxicity LC50 fishes (Pimephales promelas)</td>
<td>16.4 mg/l - 96 h (HP100%)</td>
</tr>
<tr>
<td>NOEC, fishes (Pimephales promelas)</td>
<td>NOEC, 96, 5 mg/l (HP100%)</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradation

- **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.

12.3 Bioaccumulation potential (log pow)
Partition coefficient: \( n \)-octanol/water: log \( K_{ow} \) = \(-1.57\), at 20 °C (Method: calculated)

12.4 Mobility in soil
Soil HYDROGEN PEROXIDE: 750E-06 Pa,m3/mol, 20 °C, Surface tension: 73.4 mN/m % 20 °C /17%. Water solubility and mobility Soil/sediments, log \( K_{oc} \): 0.2. Evaporation and adsorption is not significant. Air, Volatility, Henry constant, = 0.75 kPa.m/mol Conditions: 20°C not significant. Surface tension: 75.7 mN / m % 20 °C / 50 % .

12.5 Results of PBT and vPvB assessment
According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

12.6 Other adverse effects
It does not contain Substances that deplete the ozone layer.

Results of PBT and vPvB assessment: 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. Other information: No Data available.

SECTION 13: DISPOSAL CONSIDERATIONS

The safety measures in the handling of surpluses and residues are described in sections 7 and 8 of this sheet. The product and the packaging must always be disposed of in compliance with local regulations. Dispose of in accordance with the European Directives on waste and hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

13.1 Product and Waste treatment methods
For safety measures about handling of excess and residuals see section 7 and 8. It is advisable to dispose of the product and the packaging in strict observance with the local rules.

Due to the high risk of contamination recycling/recovery is not recommended. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. The creation of waste should be avoided or minimized wherever possible. Waste disposal in accordance with regulations (most probably controlled incineration). The concentrated product or contaminated packaging by the product must be disposed of by authorized company or in accordance with the authorized locally. Release of waste into drains is strongly discouraged. The cleaned packing material is suitable for energy recovery or recycling in accordance with local legislation. The residues must be handled and disposed of as provided by local and national regulations. Do not discharge into drains and/or the environment; dispose of waste at an authorized waste collection point. See: Directive 94/82 / EC, D.L. 22/1997. Please refer to the European list (Decision no. 2000/532/EC as amended) and/or your licensed waste disposal consultant to identify the European Refusal Code (EWC) appropriately and be sure to comply with national and regional regulations. European Waste Catalogue: 16 09 03 - peroxides, for example hydrogen peroxide. For manipulation and measures in case of Accidental dispersion of the refuse, apply in general to the information provided in sections 6 and 7. Precautions and specific actions should be assessed in relation to the composition of the waste. Operate according to local and national regulations. For larger quantities users can contact directly Promox designates offices.


Product disposal:
Waste must be handled and disposed of as provided by local and national regulations. Before starting the combustion procedure, it is recommended to dilute the peroxide with adequate plasticizers. If the product is correctly ignited, it decomposes itself in carbon dioxide and water. Please contact your hazardous waste disposers in order to use the correct European Waste Catalogue Number (Decision 2001/573/EC, Directive 2006/12/EEC, Directive 94/31/EEC). For further advice contact the responsible for placing on the market.

Further Information
Due to the high risk of contamination recycling/recovery is not recommended. It is advisable to dispose of the product by combustion in authorized structure. Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration). Care should be taken when handling emptied containers that have not been cleaned or rinsed out. For the manipulation and the provisions in case of accidental dispersion of the waste, the indications are worth in general furnished to the sections 6 and 7. Cautions and specific actions must be valued in relationship to the composition of the waste. Work according to the in force local and national regulations. If acidic or alkaline products are introduced in wastewater installations care must be taken that the sewage does not have a pH value that comes out of the field 6-10, since following the relocation of the pH variations could cause disorders in sewers and in biological systems purification. Local guidelines for entering wastewater Have priority validity, Persistence and Degradability: Easy and Fast to Degrade. In the tests of easy degradability, all the substances into the mixture have obtained values > 60% BOD/COD that is CO2 evolution that is > 70% of DOC decreasing. This fall into the limit values contemplated for "easily degradable / readily degradable" (OECD Method 301).
Waste disposal key

Before starting the combustion procedure, it is recommended to dilute the peroxide with adequate plasticizers. If the product is correctly ignited, it decomposes in carbon dioxide and water. Please contact your hazardous waste disposers. For further advice contact the responsible for placing on the market.

**SECTION 14: TRANSPORT INFORMATION**

The product is Not subject to the provisions of the current legislation governing the transport of dangerous goods by road / rail (ADR / RID), by sea (IMDG Code) and by air (ICAO / IATA). The product has been classified, labeled and packaged in accordance with the ADR requirements and the provisions of the IMDG Code. Regulation of transport includes special provisions for certain classes of dangerous goods packed in limited quantities.


<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>ADN/ADNR</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>UN Number</td>
<td>UN 3265</td>
<td>UN 3265</td>
</tr>
<tr>
<td>14.2</td>
<td>UN proper Shipping Name</td>
<td>UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., (8), II, (E)</td>
<td>UN 3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (8), II.</td>
</tr>
</tbody>
</table>

| Transport Hazard Class(es): | Labelling | 8 | 8 |
| Class(es): | Subsidiary risk | 8 | 8 |

| Classification Code | C3 | C3 | C3 | C3 |
| 14.4 Packing Group: | II | II | II |

| Environmental Hazards: | Marine pollutant: | Not dangerous goods. |
| Special Precautions for users: | Subsidiary risk | ---- |
| EMS code: | ---- |

| ADR/RID Hazard No: | Haz. Id. Number 80 | ---- |
| Tunnel Code: | Tunnel Code: E | Tunnel Code: E |

| Transport in bulk according to Annex II of MARPOL73/78 - IBC Code | Non Applicable | Unapplicable |
| Additional Information | ---- |

| 14.8 Land Transport | Informazioni Addizionali | ---- |
| 14.8 Transporto terrestre | ---- |

| Danger n° (Kemler Code) | Classification Code | Transport category ADR | Tunnel Code | Special Disp. |
| 80 | OC1 | 2 | Tunnel Code: E | 274 |

<table>
<thead>
<tr>
<th>Orange panel</th>
<th>Limited quantity ADR</th>
<th>Excepted quantities (ADR)</th>
<th>Packing instructions</th>
<th>Mixed packing provisions</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Portable tank and bulk container instructions</th>
<th>Portable tank and bulk container special provisions</th>
<th>Tank codes for ADR tanks</th>
<th>Vehicle for tank carriage</th>
</tr>
</thead>
</table>

| T11 | TP2 TP27 | L4BN | AT |

The product has been classified, labeled and packaged in accordance with the ADR requirements and the provisions of the IMDG Code. The transport regulation includes special provisions for certain classes of dangerous goods packed in limited quantities. Observe the provisions on transport (ADR / RID, IATA / ICAO). In case of accident, refer to the written instructions of transport and chapters 5, 6 and 7 of this MSDS. Special precautions for user see chapter: 6, 7 and 8. Transport regulations.
SECTION 15: REGULATORY INFORMATION

15.1 Chemical Identity

**Peroxyacetic acid – Peracetic acid, aqueous stabilized solution at ≤ 0.2% w/w.**

Labelling in accordance with EC Directives

Disposal national pertinent:

- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC. Unless provided for otherwise by local restrictions the product is subject to the requirements for storage facilities above 50 tons. Seveso III Substance,
- Substances subject to Regulation (EC) No. 1005/2009 on substances that reduce the ozone layer.
- Substances subject to the restrictions process (Annex XVII)
- Substances of very high concern (SVHC) and waste (Title IV)
- Preparations, and following changes.
- Directive 1999/45/CE of the European parliament and of the council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the member States relating to the classification, packaging and labelling of dangerous substances, and following changes.
- Legislative Decree n° 81/08 - ITA
  - Art. 72 deuces - Sanitary Controls are obligatory periodically when the risk is not moderated for chemical agents who are dangerous for the health and when they comply with the criteria for the classification like: - toxic, very toxic, - Harmful - Sensitizing - Irritant. The biological monitoring is obligatory when the workers are exposed to agents for which a value for biological limit has been fixed.
- D.Lg.vo 81/08 - ITA

**According to Detergents Regulation EC 648/2004:**

The organic substances included into the mixture comply with the biodegradability criteria as defined in the Regulation EC 648/2004 - 31/03/2004 about detergents. The product contains: 15% w/w or over but less than 30% w/w: Oxygen-based bleaching agents. Contains: Disinfectants.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen based bleaching agent</td>
<td>&gt; 30%</td>
</tr>
<tr>
<td>Phosphonates</td>
<td>&lt; 5%</td>
</tr>
</tbody>
</table>

Legislative Decree n° 152 of 11 May 1999, in the third part of Legislative Decree n° 152 of 3 April 2006. Water protection (Title III) and waste (Title IV)

The product does not contain:
- substances of very high concern (SVHC) candidate for authorization
- substances of very high concern (SVHC) under the authorization procedure (Annex XIV)
- substances subject to the restrictions process (Annex XVII)

The product does not contain:

According to EC Regulation No. 1907/2006 (REACH).

Water hazard class (WGK - Germany) - Water hazard class (German Regulation).

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage. Must not reach sewage water or drainage ditch undiluted or neutralized.

Norms and legislation on health and environment associated to the mixture:

- D.Lgs. 334/1999, and following changes.
- Directive 1999/45/EC of the European parliament and of the council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the ember States relating to the classification, packaging and labelling of dangerous preparations, and following changes.
- Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 – Annex XIV "Candidate List" priority substances for inclusion in Annex XIV of REACH (the "Authorization List") and for these substances proposes Annex XIV entries (i.e. transitional arrangements and, where relevant, exemptions and review periods) to the European Commission, taking into account the opinion of the Member State Committee.
- Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 – Annex XVII, sets out the list of restrictions on the manufacture, placing on the market and use of certain dangerous chemical substances, mixtures and articles.
- Legislative decree 9 April 2008, n. 81, "Implementation of article 1 of law 3 August 2007, n. 123, in matter of protection of the health and the security on the working places", and following changes.
Material Safety Data Sheet

complying with Regulation 1907/2006/EC (REACH Regulation),
EU 2015/830 and Regulation No 1272/2008/EC (CLP)

Release date: 01.03.2016
APABIO
Revision n° 04 date 01.09.2017

✓ Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific Regulation progress.
✓ D.Lgs 81/2008, and following changes.

15.2 Chemical Safety Assessment

For the substance (Peracetic Acid in Aqueous Stabilized Solution) a risk assessment has been performed (CSA). For the substances Acetic Acid and Hydrogen peroxide a risk assessment has been performed (CSA). The CSA is documented in the Chemical Safety Report (CSR) and the final ES (Exposure Scenarios) shall also be provided along the supply chain through the extended SDS.

SECTION 16: OTHER INFORMATION

MSDS Revision
Revision 03 date 01.09.2017
Full text of R, H, EUH-phrases referred to under sections 2 and 3

H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H271 May cause fire or explosion; strong oxidiser.
H272 May intensify fire; oxidizer
H290 May be corrosive to metals
H301 Toxic if swallowed
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage
H319 Causes serious eye irritation.
H331 Toxic if inhaled
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects
EUH071 Corrosive to the respiratory tract.

Key literature references and sources of data:
- Regulation EC No 1272/2008 (CLP) (and subsequent amendments and adaptations).
- Regulation EC No 1907/2006 (REACH) (and subsequent amendments and adaptations).
- SDS for raw materials.

INVENTORIES:
EINECS Conforms to
CH INV Conforms to
TSCA All components of this product are on the Canadian TSCA or pursuant to an exemption inventory.
DSL/NDSL All components of this product are on the DSL/NDSL or pursuant to an exemption inventory.
AICS Conforms to
NZIoC Conforms to
ENCS Conforms to
METI Conforms to
ISHL Conforms to
KECI Conforms to
PICCS This product and/or component(s) are exempt or excluded from the Philippines Inventory of Chemicals and Chemical Substances (PICCS) under the Republic Act 6969 (RA 6969)
IEGSC Conforms to

Update:
Safety datasheet sections which have been updated:
Material Safety Data Sheet
complying with Regulation 1907/2006/EC (REACH Regulation),
EU 2015/830 and Regulation No 1272/2008/EC (GLP)

Release date: 01.03.2016
APABIO
Revision n° 04 date 01.09.2017

2 PRODUCT HAZARD IDENTIFICATION

1 - 16 General update of Safety Data Sheet (REACH registration).

- REACH REGULATION: This MSDS has been written on 01.09.2017 on the base of how much decided by the Regulation n. 1907/2006 of the 18 December 2006 (REACH) and according to Regulation (EC) N°. 1272/2008. Safety data sheets: according to Regulation (EC) No. 1907/2006. The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. Promox has activated a Joint REGISTRATION phase for Peracetic Acid obtaining this Joint registration Number: 01-2119531330-56-0002. At the same time Promox has verified that all the suppliers of raw materials, which are involved into their own productive cycles, have carried out same pre registration and registration iter. Safety Data Sheet in accordance with Annex II of Regulation (EC) n°: 1907/2006 (REACH).

- BIOCIDE PRODUCTS DIRECTIVE (BPD)
With reference to the European Directive 98/8/CE, the product series “Promox P500” (Peracetic Acid in Stabilized solution < 16% w/w) has been notified, for the following Product Types: PT01: Human hygiene biocide products, PT02: Private area and public health area disinfectants and other biocide products, PT03: Veterinary hygiene biocide products. PT04: Food and feed area disinfectants, PT05: Drinking water disinfectants, PT06: In-can preservatives, PT11: Preservatives for liquid-cooling and processing systems, PT12: Silicimides.

- Article 95(1)
Promox Spa in listed into Article 95 List. According to Article 95(1) of the Biocidal Products Regulation, ECHA is to publish a list of relevant substances and the respective substance and product suppliers. The relevant substances are the active substances, and all substances generating an active substance, for which a dossier complying with Annex II to Biocidal Products Regulation or with Annex IIA or IVA to Directive 98/8/EC and, where relevant, Annex IIIA to that Directive ("the complete substance dossier") has been submitted and accepted or validated by a Member State in a procedure provided for by this Regulation or that Directive.

- Bibliographical references:

- Acronyms
- ADN: Accord européen relative au transport international des marchandises dangereuses par voies de navigation intérieures (The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways). ADR: Accord européen relative au transport international des marchandises dangereuses par-route. The European Agreement concerning the International Carriage of Dangerous Goods by Road. ASTM: American Society for Testing and Materials (ASTM). ACIGH: American Conference of Governmental Industrial Hygienists. BCF: Bioconcentration Factor. BOD: Biochemical Oxygen Demand. BCF: Bioconcentration factor: A Bioconcentration factor (L/kg) can either be expressed as the ratio of the concentration of a substance in an organism to the concentration of the substance in water once a steady state has been achieved (static BCF), or, on a non-equilibrium basis, as the quotient of the uptake and depuration rate constants (dynamic BCF). Static and dynamic BCFs can be equally used for regulatory purposes. The parameter gives an indication of the accumulation potential of a substance.BB5: Body weight / Bw. Cas: Chemical Abstracts Service (division of the American Chemical Society) CL50: Lethal Concentration 50% CLP: Classification, Labelling and Packaging. COD: Chemical Oxygen Demand. CSR: Chemical Safety Report; CMR: Carcinogenic, mutagenic or toxic to reproduction. CSa: Chemical Safety Assessment. DL 50: Lethal Dose 50%. DMEL: Derived Minimum Effect Level DNEL: Derived no effect level; DT50: Period required for 50 percent dissipation (define method of estimation). DT50lab: Period required for 50 percent dissipation, under laboratory conditions (define method of estimation). DT90: Period required for 90 percent dissipation (define method of estimation). DT90field: Period required for 90 percent dissipation under field conditions (define method of estimation). EC(0/50/100): Effective Concentration 0/50/100. EINECS: European Inventory of Existing Commercial Chemical Substances. ESR: Existing Substances Regulation. EU: European Union. IUCLID: International System for the Evaluation of Substances. GHS: "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations. GLP: Good Laboratory Practice. IC50: Median immobilisation concentration or median inhibitory concentration. IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; ICAO: International Civil Aviation Organization; IC50: Inhibitor Concentration 50%; IC50. Code: BMG: International Maritime Dangerous Goods code; LCLo: Lethal Concentration Low. LD (0/50/100): Lethal Dose 0/50/100; LOEC: Lowest Observed Effect Concentration. L(E)C50 Lethal concentration, median. LOAEL: Lowest Observed Adverse Effect Level. LOEC: Lowest Observed Effect Concentration. LOEL: Lowest Observed Effect Level. Lowest Observed Adverse Effect Concentration (LOAEC): The Lowest Observed Adverse Effect Concentration is the lowest concentration at which there are statistically significant increases in frequency or severity of adverse effects between the exposed population and an appropriate control group. Lowest Observed Adverse Effect Level (LOAEL): The Lowest Observed Adverse Effect Level is the lowest tested dose or exposure level at which there are statistically significant increases in frequency or severity of adverse effects between the exposed population and an appropriate control group. Lowest Observed Effect Concentration (LOEC): The Lowest Observed Effect Concentration is the lowest tested concentration at which, in a study, a statistically significant effect is observed in the exposed population compared with an appropriate control group. Lowest Observed Effect Level (LOEL): The Lowest Observed Effect Level is the lowest tested dose or exposure level at which, in a study, a statistically significant effect is observed in the exposed population compared with an appropriate control group. LOE: Low observed Effect Level. LOEL: Lowest Observed Effect Level. N.A.: No applicable. N.D.: Not Available. NOEC: No Observed Effect Concentration. NOEL: No Observed Effect Level. No Observed Adverse Effect Concentration (NOAEC): The No Observed Adverse Effect Concentration is the highest tested concentration at which there are no statistically significant increases in the frequency or severity of adverse effects between the exposed population and an appropriate control group, some effects may be produced at this level, but they are not considered adverse or precursors of adverse effects. No Observed Adverse Effect Level (NOAEL): The No Observed Adverse Effect Level is the highest tested dose or exposure level at which there are no statistically significant increases in the frequency or severity of adverse effects between the exposed population and an appropriate control group, some effects may be produced at this level, but they are not considered adverse or precursors of adverse effects. No Observed Effect Concentration (NOEC): The No Observed Effect Concentration is the highest tested concentration at which, in a study, no statistically significant effect is observed in the exposed population compared with an appropriate control group. No Observed Effect Level (NOEL): The No Observed Effect Level is the highest tested dose or exposure level at which, in a study,
no statistically significant effect is observed in the exposed population compared with an appropriate control group. NOAEL: No observed adverse effect level. NOEC: No observed effect concentration. NOEL: No observed effect level. PBT: Persistent, bioaccumulative and toxic. PNOS: Particulates not Otherwise Specified. PNEC: Predicted no effect concentration. RID: Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the Intl Transport of Dangerous Goods by Rail). STEL: short term exposure limit. STOT RE: Specific target organ toxicity – repeated exposure. STOT SE: Specific target organ toxicity – single exposure. ThOD: Theoretical Oxygen Demand. TLV: threshold limit value. TWA: Time Weighted Average. UE: European Union. vPvB: Very persistent very bioaccumulative.

Classification procedure
The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

This information applies to the Product as Such and conforming to specifications of Promox Spa. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment. These information’s given are designed only as guidance for safe use, storage, transport and disposal of the product in the most correct and secure. It is not possible to ensure that these instructions are sufficient and / or valid in all cases, some data are still under review, their character is for informational purposes only, do not constitute a guarantee for any specific product features and shall not establish any contractual legal relationship. The references to legislative, regulatory and codes should not be considered as exhaustive. For any further information, users may directly contact the Promox Regulatory Affairs Office and/or Promox Technical Service.

The present Safety Data Sheet has been revised in all of its sections and Conforms to EC Regulation 1272/2008 and EU Regulation 453/2010. The present edition replaces any previous edition. Changes effected in comparison to the previous edition: Introduction criterions and changes in conformity to the EC Regulation 1907/2006 - 1272/2008 and following changes.

End of Safety Data Sheet