

## SAFETY DATA SHEET

Version 6.1  
Revision Date 05/28/2017  
Print Date 10/04/2019

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**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : Periodic acid

Product Number : P7875  
Brand : SIGALD

CAS-No. : 10450-60-9

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 Spruce Street  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Oxidizing solids (Category 1), H271  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Acute aquatic toxicity (Category 1), H400  
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word : Danger

Hazard statement(s)

H271 : May cause fire or explosion; strong oxidizer.  
H314 : Causes severe skin burns and eye damage.  
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210 : Keep away from heat.

|                           |                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P220                      | Keep/Store away from clothing/ combustible materials.                                                                                                                     |
| P221                      | Take any precaution to avoid mixing with combustibles.                                                                                                                    |
| P260                      | Do not breathe dust or mist.                                                                                                                                              |
| P264                      | Wash skin thoroughly after handling.                                                                                                                                      |
| P273                      | Avoid release to the environment.                                                                                                                                         |
| P280                      | Wear protective gloves/ protective clothing/ eye protection/ face protection.                                                                                             |
| P283                      | Wear fire/ flame resistant/ retardant clothing.                                                                                                                           |
| P301 + P330 + P331        | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.                                                                                                                        |
| P303 + P361 + P353        | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.                                                                       |
| P304 + P340 + P310        | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.                                                       |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| P306 + P360               | IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.                                                            |
| P363                      | Wash contaminated clothing before reuse.                                                                                                                                  |
| P370 + P378               | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.                                                                                      |
| P371 + P380 + P375        | In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.                                                              |
| P391                      | Collect spillage.                                                                                                                                                         |
| P405                      | Store locked up.                                                                                                                                                          |
| P501                      | Dispose of contents/ container to an approved waste disposal plant.                                                                                                       |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |                                  |
|------------------|----------------------------------|
| Formula          | : H <sub>5</sub> IO <sub>6</sub> |
| Molecular weight | : 227.94 g/mol                   |
| CAS-No.          | : 10450-60-9                     |
| EC-No.           | : 233-937-0                      |

#### Hazardous components

| Component                 | Classification                                                                              | Concentration |
|---------------------------|---------------------------------------------------------------------------------------------|---------------|
| <b>Orthoperiodic acid</b> |                                                                                             |               |
|                           | Ox. Sol. 1; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H271, H314, H410 | <= 100 %      |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Hydrogen iodide

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustion should be taken into consideration before additional processing

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic Light sensitive.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industria situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |                                 |                                             |
|---------------------------------|---------------------------------------------|
| a) Appearance                   | Form: Crystalline powder<br>Colour: white   |
| b) Odour                        | No data available                           |
| c) Odour Threshold              | No data available                           |
| d) pH                           | No data available                           |
| e) Melting point/freezing point | Melting point/range: 122 °C (252 °F) - lit. |

- |    |                                              |                                                                          |
|----|----------------------------------------------|--------------------------------------------------------------------------|
| f) | Initial boiling point and boiling range      | No data available                                                        |
| g) | Flash point                                  | ( )No data available                                                     |
| h) | Evaporation rate                             | No data available                                                        |
| i) | Flammability (solid, gas)                    | No data available                                                        |
| j) | Upper/lower flammability or explosive limits | No data available                                                        |
| k) | Vapour pressure                              | No data available                                                        |
| l) | Vapour density                               | No data available                                                        |
| m) | Relative density                             | No data available                                                        |
| n) | Water solubility                             | soluble                                                                  |
| o) | Partition coefficient: n-octanol/water       | No data available                                                        |
| p) | Auto-ignition temperature                    | No data available                                                        |
| q) | Decomposition temperature                    | No data available                                                        |
| r) | Viscosity                                    | No data available                                                        |
| s) | Explosive properties                         | No data available                                                        |
| t) | Oxidizing properties                         | The substance or mixture is classified as oxidizing with the category 1. |

## 9.2 Other safety information

No data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

hygroscopic

### 10.5 Incompatible materials

Strong reducing agents, Powdered metals, Strong bases, Dimethyl sulfoxide. (DMSO)

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen iodide

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available Orthoperiodic acid

Inhalation: No data available (Orthoperiodic acid)

Dermal: No data available (Orthoperiodic acid)

No data available (Orthoperiodic acid)

**Skin corrosion/irritation**

No data available(Orthoperiodic acid)

**Serious eye damage/eye irritation**

No data available(Orthoperiodic acid)

**Respiratory or skin sensitisation**

No data available(Orthoperiodic acid)

**Germ cell mutagenicity**

No data available(Orthoperiodic acid)

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available(Orthoperiodic acid)

No data available(Orthoperiodic acid)

**Specific target organ toxicity - single exposure**

No data available(Orthoperiodic acid)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available(Orthoperiodic acid)

**Additional Information**

RTECS: Not available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea(Orthoperiodic acid)

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available(Orthoperiodic acid)

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 3085      Class: 5.1 (8)      Packing group: II  
Proper shipping name: Oxidizing solid, corrosive, n.o.s. (Orthoperiodic acid)  
Poison Inhalation Hazard: No

### IMDG

UN number: 3085      Class: 5.1 (8)      Packing group: II      EMS-No: F-A, S-Q  
Proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (Orthoperiodic acid)

### IATA

UN number: 3085      Class: 5.1 (8)      Packing group: II  
Proper shipping name: Oxidizing solid, corrosive, n.o.s. (Orthoperiodic acid)

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## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Reactivity Hazard, Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

|                    | CAS-No.    | Revision Date |
|--------------------|------------|---------------|
| Orthoperiodic acid | 10450-60-9 |               |

### New Jersey Right To Know Components

|                    | CAS-No.    | Revision Date |
|--------------------|------------|---------------|
| Orthoperiodic acid | 10450-60-9 |               |

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

|      |                                               |
|------|-----------------------------------------------|
| H271 | May cause fire or explosion; strong oxidizer. |
| H314 | Causes severe skin burns and eye damage.      |
| H318 | Causes serious eye damage.                    |

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

**HMIS Rating**

Health hazard: 3  
Chronic Health Hazard:  
Flammability: 0  
Physical Hazard 2

**NFPA Rating**

Health hazard: 3  
Fire Hazard: 0  
Reactivity Hazard: 2  
Special hazard.I: OX

**Further information**

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**Preparation Information**

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Product Safety – Americas Region  
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Version: 6.1

Revision Date: 05/28/2017

Print Date: 10/04/2019