SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Sodium periodate
Product Number: 311448
Brand: SIGALD
CAS-No.: 7790-28-5

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

Identified uses: Laboratory chemicals, Synthesis of substances
Uses advised against:

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES
Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 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 1C), H314
Serious eye damage (Category 1), H318
Specific target organ toxicity - repeated exposure (Category 1), thymus gland, H372
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (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
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Sodium (meta)periodate

Molecular weight : 213.89 g/mol
SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

For the full text of the H-Statements mentioned in this Section, see Section 16.
5.2 Special hazards arising from the substance or mixture
Hydrogen iodide
Sodium oxides
Not combustible.
Has a fire-promoting effect due to release of oxygen.
Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Separately or together with other oxidising substances only and away from sources of ignition and heat. Because of their oxidation potential these products can raise
the burning rate of combustible substances substantially or ignite combustible substances on contact with them.

Light sensitive. Hygroscopic.

**Storage class**
Storage class (TRGS 510): 5.1A: Strongly oxidizing hazardous materials

### 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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**SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

**Ingredients with workplace control parameters**
Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

**Appropriate engineering controls**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

**Skin protection**
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

- **Full contact**
  - Material: Nitrile rubber
  - Minimum layer thickness: 0.11 mm
  - Break through time: 480 min
  - Material tested: KCL 741 Dermatril® L

- **Splash contact**
  - Material: Nitrile rubber
  - Minimum layer thickness: 0.11 mm
  - Break through time: 480 min
  - Material tested: KCL 741 Dermatril® L

**Body Protection**
protective clothing
Respiratory protection
required when dusts are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: crystalline
   Color: white, light yellow

b) Odor
   odorless

c) Odor Threshold
   Not applicable

d) pH
   3.5 - 5.5 at 107 g/l at 25 °C (77 °F)

e) Melting point/freezing point
   Melting point/range: 300 °C (572 °F) - dec.

f) Initial boiling point and boiling range
   No data available

g) Flash point
   ()Not applicable

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   The product is not flammable. - Flammability (solids)

j) Upper/lower flammability or explosive limits
   No data available

k) Vapor pressure
   No data available

l) Vapor density
   No data available

m) Density
   3.87 g/cm3 at 20 °C (68 °F)
   Relative density
   3.86516 °C

n) Water solubility
   ca.91 g/l at 20 °C (68 °F) at 1,013 hPa - OECD Test Guideline 105

o) Partition coefficient: n-octanol/water
   Not applicable for inorganic substances

p) Autoignition temperature
   262 °C (504 °F) at 1,013 hPa - Tested according to Annex V of Directive 67/548/EEC.

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

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Exposure to light.

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available
LD50 Intraperitoneal - Mouse - 58 mg/kg
No data available

Skin corrosion/irritation
Skin - In vitro study
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days. - 4 h
(OECD Test Guideline 431)

Serious eye damage/eye irritation
Remarks: Risk of serious damage to eyes.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): micronucleus.
Metabolic activation: without metabolic activation
Method: OECD Test Guideline 487  
Result: negative  
Remarks: The value is given in analogy to the following substances: Potassium iodate  

Type: In vitro mammalian cell gene mutation test  
Test system: Mouse lymphoma test  
Metabolic activation: without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Remarks: The value is given in analogy to the following substances: Potassium iodate  

Carcinogenicity  
IARC: No ingredient 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 ingredient 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 on OSHA’s list of regulated carcinogens.  

Reproductive toxicity  
No data available  

Specific target organ toxicity - single exposure  
No data available  

Specific target organ toxicity - repeated exposure  
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.  
- thymus gland  

Aspiration hazard  
No data available  

11.2 Additional Information  
RTECS: SD4550000  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  

SECTION 12: Ecological information  
12.1 Toxicity  
Toxicity to fish  
semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 0.17 mg/l - 96 h  
(OECD Test Guideline 203)  

Toxicity to daphnia and other aquatic invertebrates  
static test EC50 - Daphnia magna (Water flea) - 0.18 mg/l - 48 h  
(OECD Test Guideline 202)  

Toxicity to algae  
static test EC50 - Pseudokirchneriella subcapitata (algae) - 1.1 mg/l - 72 h  
(OECD Test Guideline 201)  
static test NOEC - Pseudokirchneriella subcapitata (algae) - 0.1 mg/l
Toxicity to bacteria static test EC50 - activated sludge - 220 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product**
Waste material must be disposed of in accordance with the national and local regulations.
Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

**DOT (US)**
UN number: 3085   Class: 5.1 (8)   Packing group: I
Proper shipping name: Oxidizing solid, corrosive, n.o.s. (sodium metaperiodate)
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**
UN number: 3085   Class: 5.1 (8)   Packing group: I   EMS-No: F-A, S-Q
Proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium metaperiodate)
Marine pollutant: yes

**IATA**
UN number: 3085   Class: 5.1 (8)   Packing group: I
Proper shipping name: Oxidizing solid, corrosive, n.o.s. (sodium metaperiodate)
SECTION 15: Regulatory information

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

**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.

SECTION 16: Other information

**Further information**
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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