Sodium meta-Periodate (Certified ACS)

S398-50; S398-100

Sodium metaperiodate; Periodic acid (HIO4), sodium salt.

Laboratory chemicals

No Information available

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel. (201) 796-7100

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Oxidizing solids Category 1
Corrosive to metals Category 1
Acute oral toxicity Category 3
Skin Corrosion/irritation Category 1
Serious Eye Damage/Eye Irritation Category 1
Specific target organ toxicity (single exposure) Category 3
Target Organs - Respiratory system
Specific target organ toxicity - (repeated exposure) Category 2

Label Elements

Signal Word
Danger

Hazard Statements
May cause fire or explosion; strong oxidizer
May be corrosive to metals
Toxic if swallowed
Causes severe skin burns and eye damage
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure
Precautionary Statements
Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep/Store away from clothing/ other combustible materials
Take any precaution to avoid mixing with combustibles
Wear fire/flame resistant/retardant clothing
Response
Immediately call a POISON CENTER or doctor/physician
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
Wash contaminated clothing before reuse
IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes
Rinse skin with water/shower
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
Fire
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Very toxic to aquatic life

3. Composition / Information on ingredients

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Periodic acid (HIO4), sodium salt</td>
<td>7790-28-5</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

General Advice
Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects
Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

Notes to Physician
Treat symptomatically.

5. Fire-fighting measures

Unsafe Extinguishing Media
No information available.

Flash Point
No information available.

Method -
No information available

Autoignition Temperature
Not applicable

Explosion Limits
Upper
No data available

Lower
No data available

Oxidizing Properties
Oxidizer

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.). Corrosive Material. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Sodium oxides.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA
<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>2</td>
<td>OX</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological Information.

Methods for Containment and Clean Up
Keep combustibles (wood, paper, oil, etc) away from spilled material. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.
7. Handling and storage

Handling
Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not breathe vapors/dust. Avoid dust formation. Keep away from clothing and other combustible materials.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Do not store near combustible materials.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Off-white</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>3.4-4.5 5%aq sol. 20°C</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>300°C / 572°F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>300 °C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>I Na O4</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>213.89</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactive Hazard  Yes
Stability  Stable under normal conditions. Oxidizer. Contact with combustible/organic material may cause
fire.
Conditions to Avoid  Incompatible products. Excess heat. Combustible material.
Incompatible Materials  Strong oxidizing agents, Strong reducing agents, Combustible material
Hazardous Decomposition Products  Sodium oxides
Hazardous Polymerization  Hazardous polymerization does not occur.
Hazardous Reactions  None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg, Rat)</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodic acid (HIO4), sodium salt</td>
<td>264</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products  No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation  Causes burns by all exposure routes
Sensitization  No information available.
Carcinogenicity  The table below indicates whether each agency has listed any ingredient as a carcinogen

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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<tbody>
<tr>
<td>Periodic acid (HIO4), sodium salt</td>
<td>7790-28-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  No information available.
Reproductive Effects  No information available.
Developmental Effects  No information available.
Teratogenicity  No information available.
STOT - single exposure  Respiratory system.
STOT - repeated exposure  None known.
Aspiration hazard  No information available.
Symptoms / effects, both acute and delayed  Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity
Very toxic to aquatic organisms. Do not empty into drains.

Persistence and Degradability
Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulation/ Accumulation
No information available

Mobility
Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations
Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
UN-No                UN1479
Proper Shipping Name OXIDIZING SOLID, N.O.S.
Proper technical name (SODIUM PERIODATE)
Hazard Class        5.1
Packing Group       I

TDG
UN-No                UN1479
Proper Shipping Name OXIDIZING SOLID, N.O.S.
Hazard Class        5.1
Packing Group       I

IATA
UN-No                UN1479
Proper Shipping Name Oxidizing solid, n.o.s
Hazard Class        5.1
Packing Group       I

IMDG/IMO
UN-No                UN1479
Proper Shipping Name Oxidizing solid, n.o.s
Hazard Class        5.1
Packing Group       I

15. Regulatory information

International Inventories
15. Regulatory Information

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodic acid (H₂O₄), sodium salt</td>
<td>X</td>
<td>X</td>
<td></td>
<td>232-197-6</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base
Production and Site Reports (40 CFR 710(b)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazardous Categorization
- Acute Health Hazard Yes
- Chronic Health Hazard No
- Fire Hazard No
- Sudden Release of Pressure Hazard No
- Reactive Hazard Yes

Clean Water Act Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration Not applicable

CERCLA Not Applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

State Right-to-Know Not applicable

U.S. Department of Transportation
- Reportable Quantity (RQ): N
- DOT Marine Pollutant N
- DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

C Oxidizing materials  
D1B Toxic materials  
E Corrosive material

16. Other Information

Prepared By  Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

Creation Date  21-Sep-2010  
Revision Date  31-Mar-2014  
Print Date  31-Mar-2014  
Revision Summary  This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer  
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS