

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: January 23, 2019

SPI Catalog #'s 02594-AA, 02594-AB

SPI-Chem™ Sodium Periodate

Component of 02592-AA, 02592-AB

SPI-Chem™ Ruthenium Tetroxide Staining Kit

Section 1.1: Identification

Chemical Name/Synonyms Sodium periodate

Product or Trade Name SPI-Chem™ Sodium Periodate

CAS #'s 7790-28-5

Chemical Formula..... INaO_4

Section 1.2: Relevant Uses/Restrictions

Laboratory chemical, oxidizer used in staining procedures in the microscopy laboratory.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS):

Oxidizing Solids: (category 2)

Skin Irritation: (category 2)

Eye Irritation: (category 2A)

Specific Target organ Toxicity (single exposure): (category 3) [Target Organs – Respiratory system]

2.2 Label elements

Pictogram



Signal Word: Danger

Hazard statements:

- H272 May intensify fire; oxidizer.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary statements:

- P210 Keep away from heat/ sparks/ open flames/ hot surfaces. – No smoking.
- P220 Keep/Store away from clothing/ other combustible materials.
- P221 Take any precaution to avoid mixing with combustibles.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.
- P503 Dispose of contents/ container to an approved waste disposal plant.

WHMIS Classification:

- C – Oxidizing materials.
- D2B – toxic material causing other toxic effects

2.3 Other Hazards:

- Results of PBT and vPvB assessment:
 - PBT: Not applicable.
 - vPvB: Not applicable

Hazardous Material Information System USA

- Health 2
- Fire Hazard 0
- Reactivity 2
- Personal Protection

NFPA Rating (estimated)

- Health 2
- Flammability..... 0
- Reactivity 2
- Physical hazards..... OX

Section 3: Composition

3.1 Substances:

Sodium periodate CAS # 7790-28-2 EC number 232-197-6 <=100 %

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

Skin Contact:

Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

Eye Contact:

Immediately rinse opened eye for several minutes under running water.
Then consult a doctor.

Ingestion:

Seek medical treatment.

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

Causes skin irritation.
Causes serious eye irritation.

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

No further relevant information available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

Use carbon dioxide, extinguishing powder, or water spray.
Fight larger fires with water spray or alcohol resistant foam.

For safety reasons – unsuitable extinguishing agents: Halocarbon extinguisher.

5.2 Special hazards arising from the substance or mixture:

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

5.3 Hazardous combustion products:

If this product is involved in a fire, the following can be released:
Hydrogen Iodide (HI)
Sodium oxide

5.4 Advice for firefighters:

Protective equipment:

Wear self-contained respirator.
Wear fully protective impervious suit.

Section 6: Accidental Release Measures

6.1 Personal precautions:

Wear protective equipment.
Keep unprotected person away.
Ensure adequate ventilation.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Prevention of secondary hazards:

Acts as an oxidizing agent on organic materials such as wood, paper, and fats.
Keep away from combustible material.

6.4 Reference to other sections:

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Protective Action Criteria for Chemicals:

PAC-1: 0.19 mg/m³

PAC-2: 2.1 mg/m³

PAC-3: 13 mg/m³

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

7.2 Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:

Store away from flammable substances.
Store away from reducing agents.
Store in the dark.
Do not store with organic materials.
Store away from metal powders.
Store away from water/moisture.

Further information about storage conditions:

Store under dry inert gas.
This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.
Protect from exposure to light.

7.3 Specific end uses:

Laboratory chemical, oxidizer used in staining procedures in the microscopy laboratory.

This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection:

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Workplace exposure limits:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Biological limit values: No data available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.2.2 Individual protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages, and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use: Use a respirator with type P100 (USA)

P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only equipment tested and approved under appropriate government standards.

Protection of the hands: Impervious gloves.

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer.

Material of gloves: Nitrile rubber, NBR.

Penetration time of glove material (in minutes): Not determined.

Eye protection: Safety glasses with side shields / NIOSH (US) or EN 166 (EU).

Body protection: Protective work clothing.

8.2.3 Environmental exposure controls: No additional information available.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance: off white powder

Odor: odorless

Odor threshold: not determined

pH: not applicable

Melting point/Freezing point: 300 °C (572 °F) (dec)

Boiling point/Boiling point range: not determined

Flash Point: no data available

Evaporation rate: not applicable

Flammability (solid, gas): Contact with combustible material may cause fire.

Upper/lower flammability or explosive limits: not determined

Vapor Pressure: not applicable

Vapor density: not applicable

Density at 20 °C (68 °F): 3.86 g/cm³ (32.212 lbs/gal)

Solubility in water @ 20°C: 107 g/l

Partition coefficient (n-octanol/water): not determined

Auto-ignition temperature: not determined

Decomposition temperature: not determined

Viscosity: not applicable

Explosive properties: no data available

Oxidizing Properties: oxidizing material

9.2 Other information: No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity: May intensify fire; oxidizer.

10.2 Chemical Stability: Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions:

Reacts with reducing agents.

Reacts with flammable substances.

10.4 Conditions to avoid:

Decomposition will not occur if used and stored according to specifications.

No further relevant information available.

10.5 Incompatible materials:

Flammable substances

Reducing agents

Organic materials

Metal powders

Water/ moisture

Light

10.6 Hazardous decomposition products:

Hydrogen Iodide (HI)

Sodium oxide

Section 11: Toxicological Information

Information on the likely routes of exposure:

11.1 Information on toxicological effects:

RTECS # SD4550000

A. Acute toxicity

LD50 mouse Intraperitoneal 58 mg/kg

B. Skin corrosion/irritation

Causes skin irritation.

C. Serious eye damage/irritation

May cause irritation.

D. Respiratory or skin sensitization

No sensitizing effects known.

E. Germ cell mutagenicity

No effects known.

F. Carcinogenicity

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

G. Reproductive toxicity

No effects known.

H. STOT-single exposure

May cause respiratory irritation.

I.. STOT-repeated exposure

No effects known.

J. Aspiration hazard

No effects known.

Subacute to chronic toxicity:

No effects known.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Section 12: Ecological Information

12.1 Toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bio-accumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment:

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable

12.6 Other adverse effects:

Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system.

Avoid transfer into the environment.

No further relevant information available.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Consult state, local, and national regulations to ensure proper disposal.

Disposal of uncleaned packages must be made according to official regulations.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14: Transport Information

DOT:

UN Number:	UN 1479
UN proper shipping name:	Oxidizing solid, n.o.s. (Sodium metaperiodate)
Class:	5.1 Oxidizing substances
Label:	5.1
Packing group:	II
Marine pollutant:	no

IATA:

UN Number:	UN 1479
UN proper shipping name:	OXIDIZING SOLID, N.O.S. (Sodium metaperiodate)
Class:	5.1 Oxidizing substances
Label:	5.1
Packing group:	II

IMDG:

UN Number:	UN 1479
UN proper shipping name:	OXIDIZING SOLID, N.O.S. (Sodium metaperiodate)
Class:	5.1 Oxidizing substances
Label:	5.1
Packing group:	II

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture:

U.S. Government Regulations:

TSCA:

CAS# 7790-28-5 is listed on the TSCA Active Inventory List.

Health & Safety Reporting List:

CAS# 7790-28-5 is not listed on the Health & Safety Reporting List.

Chemical Test Rules:

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b:

None of the chemicals in this material are listed under TSCA Section 12B.

TSCA Significant New Use Rule:

None of the chemicals in this product have a SNUR under TSCA.

CERCLA Section 103:

None of the chemicals in this material have an RQ.

SARA:**Section 302 (TPQ)**

None of the chemicals in this material have a TPQ.

SARA Codes

CAS# 7790-28-5: Fire.

Section 313

None of the chemicals in this material are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this material is listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product is considered highly hazardous by OSHA.

State (Individual states in the USA)

None of the chemicals in this product is listed on state lists from CA, FL, MA, MN, NJ or PA.

California Prop. 65:

None of the chemicals in this product is listed.

CANADA:

CAS # 7790-28-5 is listed on the DSL List.

CAS # 7790-28-5 has a WHMIS classification of C.

Other Regulations:**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006:**

Substance is not listed.

The conditions of restrictions according to article 67 and Annex XVII of the Regulation (EC) No. 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed:

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorization for use):

Substance is not listed.

15.2 Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

Date of Preparation: 23 January 2019.

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CMRG: Chemical Manufacturer's Recommended Guidelines
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
ATE: Acute Toxicity Estimates
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling
TSCA: Toxic Substances Control Act (USA)
DSL: Domestic Substances List (Canada)
PICCS: Philippine Inventory of Chemicals and Chemical Substances
ENCS: Existing and New Chemical Substances (Japan)
AICS: Australian Inventory of Chemical Substances
IECSC: Inventory of Existing Chemical Substances in China
KECL: Korea Existing Chemicals List

Section 16: Other Information

Disclaimer of Liability:

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