

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Sodium periodate

Creation date 01st December 2022
Revision date Version 1.0

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

- 1.1. Product identifier**
Sodium periodate
Substance / mixture substance
Chemical name Periodic acid (HIO₄), sodium salt (1:1)
CAS number 7790-28-5
EC (EINECS) number 232-197-6
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
Substance's intended use
Used as a laboratory chemical and in the manufacture of chemical substances. For industrial use, professional use.
Substance uses advised against
not available
- 1.3. Details of the supplier of the safety data sheet**
Manufacturer
Name or trade name Vinyl Kft.
Address Adler Károly u. 19., Miskolc, 3524
Hungary
Phone +3646432633
E-mail ehsq@vinyl.hu
- 1.4. Emergency telephone number**
Public Toxicological Health Service (ETTSZ) 1096 Budapest, Nagyvárad tér 2. Tel.: 06 1 476 6464, 06 80 201 199 (0-24 h)

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
Classification of the substance in accordance with Regulation (EC) No 1272/2008
The substance is classified as dangerous.

Ox. Sol. 1, H271
Skin Corr. 1C, H314
Eye Dam. 1, H318
STOT RE 1, H372 (thyroid gland) (inhalation)
Aquatic Acute 1, H400

Full text of all classifications and hazard statements is given in the section 16.

- 2.2. Label elements**
Hazard pictogram



Signal word
Danger

Dangerous substance
Periodic acid (HIO₄), sodium salt (1:1)
(EC: 232-197-6; CAS: 7790-28-5)

Hazard statements
H271 May cause fire or explosion; strong oxidiser.
H314 Causes severe skin burns and eye damage.
H372 Causes damage to thyroid gland through prolonged or repeated exposure if inhaled.
H400 Very toxic to aquatic life.

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Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a doctor.
P391 Collect spillage.

2.3. Other hazards

No other specific hazards for humans or the environment known. The product does not meet the PBT or vPvB criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 7790-28-5 EC: 232-197-6	substance main component Periodic acid (HIO ₄), sodium salt (1:1)	99	Ox. Sol. 1, H271 Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 3, H335 STOT RE 1, H372 (thyroid gland) (inhalation) Aquatic Acute 1, H400 (M=1)	

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice: Obtain medical help. Show the safety data sheet to the doctor.

If inhaled

Get immediate medical attention. In case of persistent sickness, obtain medical help. Place the victim into comfortable position and keep him warm. Move victim away from the source of exposure. In case of persistent throat irritation or coughing, obtain medical help and show this instructions. Not relevant exposure route, because the product does not contain volatile compounds.

If on skin

Remove the contaminated clothes. Immediately wash affected skin with soap and water. In case of persistent irritation, obtain medical help.

If in eyes

Remove contact lenses before the rinse. Immediately flush eyes with plenty of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Obtain immediate medical help.

If swallowed

Get immediate medical attention. Take the victim into fresh air, let him rest and keep him warm. Move victim away from the source of exposure. IF THE VICTIM IS UNCONSCIOUS NEVER TRY INDUCE VOMITING OR DRINKING WITH LIQUID! DO NOT INDUCE VOMITING.

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

If inhaled

not available

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

not available

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

Not available any recommendation, but in case of accidental exposure, inhalation or ingestion first-aid is necessary. In case of any doubts obtain immediate medical help.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. The material itself is non-combustible, but may promote the combustion of other substances. Choose extinguishing media depending on surrounding fire.

Unsuitable extinguishing media

Not known.

5.2. Special hazards arising from the substance or mixture

It can light other combustible materials. In case of heating toxic or acrid fumes can release. hydrogen iodide, sodium oxide.

5.3. Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus. Cool the fire affected containers with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Keep unprotected people away, allow only well trained experts wearing suitable protective clothing to abide in the field of accident. Wear appropriate personal protective equipment (gloves, goggles, protective clothes). Do not smoke, and do not use open flame or other ignition source.

For emergency responders: Wear appropriate personal protective equipment. Avoid formation of dust. Avoid breathing dust / fume / gas / mist. Ensure adequate ventilation. Remove the ignition sources. Remove the unauthorized/unprotected personnel.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid discharge of the substance into sewers, natural waters or soil. Dispose the spillage and the resulting waste according to the applicable environmental regulations. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. Methods and material for containment and cleaning up

Collect the spilled substance mechanically, sweep up and shovel or use electrically protected vacuum cleaner or a damp cloth to collect and soak up, then place the collected waste into appropriate, labeled, closable hazardous waste container till proper removal/disposal. Ventilate and mop up with water the place of the contamination.

6.4. Reference to other sections

For further and detailed information see section 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe safety measures when handling chemicals. Do not eat, drink or smoke when using product. Keep containers tightly closed. Do not chop, shake or rub the product. Avoid contact with eyes and skin. Do not breathe dust. Store work clothes separately. Technical measures: Ensure adequate ventilation. Provide adequate ventilation in case of dust formation. Advice on protection against fire and explosion: Keep away from heat, sparks and open flames. No smoking. Danger! If subjected to intense condensation at temperatures above 140 °C, sodium metaperiodate can undergo violent decomposition to form sodium iodate with the liberation of gaseous oxygen. It is significantly lower than the normal decomposition temperature of 270°C. Where there is potential for extreme compression during processing e.g. milling, tableting or traded pan-drying operations, the maximum working temperature should be kept well below 140°C to minimize the risk of degradation.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures, storage: Oxidizing material Keep away from combustible material, Store in original, closed and appropriately labeled container. Store cool and dry. Keep away from sources of ignition or high temperatures. Storage class: oxidizing agent. Incompatible materials: flammable, combustible substances, strong reducing agents. Packing material: no special regulations.

7.3. Specific end use(s)

Used as a laboratory chemical and in the manufacture of chemical substances. For industrial use, professional use.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits: The substance is not regulated with exposure limit values.

Other information of limit values

Workers: Acute/short time exposure: 0,3 mg/m³, 0,06 mg/bw/day

PNEC

Water

Fresh water: 0,00018 mg/l

Sea water: 0,000018 mg/l

STP: 2,2 mg/l

Sediment: (fresh water): 0,000702 mg/kg sediment: dry weight

Sediment: (marine water): 0,0000702 mg/kg sediment dw

Soil: 0,000035 mg/kg soil dry weight

8.2. Exposure controls

Ensure adequate general and local ventilation. Handling the product with suitable occupational safety measures. Use appropriate dust concentration management equipment. Eye wash facilities must be available at the workplace. Do not smoke in the work area. Do not eat, drink or smoke during use. Wash hands before eating, smoking and using the toilet and at the end of the working day. Remove/Take off immediately all contaminated clothing. Clean the affected skin surface with soap. Use barrier cream to avoid drying out the skin. In pursuit of work, proper foresight is required to avoid spills on clothing and floor, or contact with skin and eyes. Do not breathe dust. Wash hands before breaks and after work. Remove soiled clothing! Flush contaminated skin with plenty of water. Eye wash systems and safety showers must be available at the workplace.

Eye/face protection

Wear appropriate protective glasses or face protection (EN 166).

Skin protection

Use appropriate protective clothing (boots and protective suit). The protective equipment must be selected depending on the concentration and amount of the hazardous substance in the workplace. Hand protection: Use appropriate protective gloves (EN 374). Check protective gloves before use. Remove gloves using appropriate methods. Remove protective gloves without touching their outer part to avoid contact with skin. Dispose of the contaminated gloves according to the regulations in force. Wash and dry hands.

Respiratory protection

No special recommendations required, in case of special conditions, e.g. high pollution level, use appropriate respirator.

Thermal hazard

not available

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	white or pale yellow
Odour	data not available
Melting point/freezing point	270 °C
Boiling point or initial boiling point and boiling range	data not available
Flammability	none flammable
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	270 °C
pH	3,5-5,5 (10,7% solution at 25 °C)
Kinematic viscosity	data not available
Solubility in water	107 g/l completely soluble
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	

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Density	3,9-4,1 g/cm ³ at 20 °C
Relative vapour density	data not available
Particle characteristics	data not available
Form	solid, Dust

9.2. Other information

Density: 3.9-4.1 g/cm³ (20 °C) Bulk density: 2000-2400 kg/m³ Formula: NaIO₄ Molar mass: 213.89 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable within normal temperature and general work conditions. Attention! When subject to intense compression at temperatures above 140 °C Sodium Metaperiodate can undergo violent decomposition to form Sodium Iodate with the release of gaseous oxygen. This is significantly lower than the normal decomposition temperature of 270 °C Where there is a potential for extreme compression during processing e.g. during milling, tableting or agitated pan-drying operations the maximum processing temperature should be kept well below 140 °C to minimize the risk of decomposition.

10.3. Possibility of hazardous reactions

Strong oxidant. Contact with combustible materials, reducing agents or powdered metals may cause fire. No polymerization.

10.4. Conditions to avoid

Avoid contact with acids. Contact with acids liberates toxic gas. Do not expose to heat, direct sunlight, and air. Keep away from reactive or combustible materials and moisture. Avoid contact with strong reducing agents and finely divided metals.

10.5. Incompatible materials

Organic materials, reducing agents, metal powders, magnesium. Strong acids. Moisture.

10.6. Hazardous decomposition products

Hydrogen iodide, sodium oxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

There is no test data available for the product, therefore we provide the available ecotoxicological test data for its individual components.

Acute toxicity

NOAEL: 12 mg/kg/day

Acute toxicity: LD50 (oral, rat): no data

LD50 (dermal, rat): no data

LD50 (mouse): no data

Skin corrosion/irritation

Causes severe skin burns.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Based on the available data, it does not meet the classification criteria.

Germ cell mutagenicity

Based on the available data, it does not meet the classification criteria.

Carcinogenicity

The substance is not carcinogenic. The product does not contain any components at or above the 0.1% limit classified or suspected to be carcinogenic to humans by the IARC.

Reproductive toxicity

Based on the available data, it does not meet the classification criteria.

Toxicity for specific target organ - single exposure

Based on the available data, it does not meet the classification criteria.

Toxicity for specific target organ - repeated exposure

With repeated or prolonged exposure, it damages organs (glandular epithelium: thyroid).

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Aspiration hazard

Based on the available data, it does not meet the classification criteria.

11.2. Information on other hazards

not available

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Very toxic to aquatic life. Dangerous for the environment. Do not allow to enter water courses, drainage systems, soil.

Acute toxicity for fish:

LC50 (fresh water fishes): 0,17 mg/l/96 h

LC50 (marine water fishes): no data available

Acute toxicity for aquatic invertebrates:

LC50 (Daphnia magna): 0,18 mg/l/48 h

Acute toxicity for aquatic plants:

EC50 (fresh water algae - 72 hours): no data available

NOEC (fresh water algae - 72 hours): no data available

Toxicity for microorganisms (eg.: bacterias)

EC50 (fresh water microorganisms): 220 mg/l/3 hours

M-factor: 1

12.2. Persistence and degradability

Inorganic: not biodegradable.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The product does not meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) substances.

12.6. Endocrine disrupting properties

There is no other relevant information.

12.7. Other adverse effects

Unknown.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal according to national/local regulations. Methods for handling the substance/mixture Burn in a chemical incinerator equipped with afterburner and scrubber, but use caution if ignited as substance may increase fire intensity; it is an oxidizing agent. Disposal by approved company. No waste code number can be specified for this product, as only the intended use by the consumer allows it to be assigned. Within the EU, the waste key number must be determined in consultation with the disposal company. Treat contaminated packaging material as unused product.

SECTION 14: Transport information

14.1. UN number or ID number

UN 3085

14.2. UN proper shipping name

OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)

14.3. Transport hazard class(es)

5.1 Oxidizing substances

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

Very toxic to aquatic life. Sea polluters.

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14.6. Special precautions for user

There is no other relevant information.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

Additional information

Hazard identification No.

58

UN number

3085

Classification code

OC2

Safety signs

5.1+8+hazardous for the environment



SECTION 15: Regulatory information

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

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of December 18, 2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), on the creation of a European Chemicals Agency, on the amendment of Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93, Commission Regulation (EC) No. 1488/94, Council Directive 76/769/EEC and Directives 91/155/EEC, 93/67/EEC, 93/105/EG and 2000/21/EG of the commission

REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND THE COUNCIL of December 16, 2008 on the classification, labeling and packaging of substances and mixtures, amending and repealing directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No. 1907/2006

15.2. Chemical safety assessment

Not made for the product.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H271 May cause fire or explosion; strong oxidiser.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H372 Causes damage to thyroid gland through prolonged or repeated exposure if inhaled.
H400 Very toxic to aquatic life.

Guidelines for safe handling used in the safety data sheet

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a doctor.
P391 Collect spillage.

Other important information about human health protection

not available

Key to abbreviations and acronyms used in the safety data sheet

ADR European agreement concerning the international carriage of dangerous goods by road
AGW Occupational Exposure Limits

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BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
MAK	Maximum workplace concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Aquatic Acute	Hazardous to the aquatic environment
Eye Dam.	Serious eye damage
Ox. Sol.	Oxidising solid
Skin Corr.	Skin corrosion
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

Training guidelines

not available

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

not available

Statement

Without knowing the conditions of use and handling of the product, the manufacturer of the safety data sheet and the company supplying the data sheet cannot be held responsible for any unforeseen damage, loss, injury, accident or similar event resulting from deviations from the standard use. The person performing the work is obliged to comply with all applicable legal provisions that apply to work with the product.