SAFETY DATA SHEET

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

PERIODIC ACID

Creation date	29th November 2022		
Revision date		Version	1.0

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

1.1. Product identifier

Substance / mixture	substance
Number	Registration number: 01-2120784508-41-0003
Chemical name	Orthoperiodic acid
CAS number	10450-60-9
EC (EINECS) number	233-937-0

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

Substance's intended use

Chemical synthesis, chemical production for printing industry. For industrial use.

Substance uses advised against

No data 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

Toxikológiai Információs Központ, levelezési cím: 1097 Budapest, Nagyvárad tér 2., Magyarország, tel. +36 80 20 11 99, (0-24 óra).

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
Aquatic Acute 1, H400 (multiplying factor = 1)
Aquatic Chronic 1, H410

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

Most serious adverse effects on human health and the environment

No other known specific hazards for human or environment.

2.2. Label elements

Hazard pictogram

Signal word

Danger

Dangerous substance

Orthoperiodic acid
(EC: 233-937-0; CAS: 10450-60-9)

Hazard statements

H271	May cause fire or explosion; strong oxidiser.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P405	Store locked up.
P501	Dispose of container to in accordance with national regulations.

2.3. Other hazards

PBT substance , vPvB substance - not determined.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

Chemical name: Orthoperiodic acid
Synonym: Periodic acid
Molecular formula: H 5 Io 6
Molecular weight: 227,94 g/mol
Purity: > 99 %
Impurities: < 1 %
No impurities relevant for classification and labelling.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
	substance main component			
CAS: 10450-60-9 EC: 233-937-0	Orthoperiodic acid	>99	Ox. Sol. 1, H271 Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT RE 1, H372 (thyroid gland) 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 information: Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

- Move person into fresh air.
- If not breathing, give artificial respiration.
- Consult a physician.

If on skin

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

If in eyes

- Rinse thoroughly with plenty of water for at least 15 minutes.
- Immediately call a POISON CENTER or doctor.

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

If inhaled

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Causes cough, shortness of breath, headache and nausea.

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

Material is extremely destructive to tissue of the mucous membranes. Causes cough, shortness of breath, headache and nausea.

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

No special treatment needed; treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

May cause fire or explosion; strong oxidiser. In case of fire, dangerous decomposition products may be generated (hydrogen iodide, oxygen gas).

5.3. Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus. In case of major fire and large quantities, evacuate area.

Fight fire remotely due to the risk of explosion. 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:

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident. Use proper personal protective equipment as listed in Section 8.

For emergency responders:

Use proper personal protective equipment as listed in Section 8.

6.2. Environmental precautions

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. 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

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 further and detailed information see Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe conventional hygiene precautions.
Care should be taken to prevent any chemical form coming into contact with the skin or eyes and from contaminating personal clothing. Wash body thoroughly after open handling of product. Avoid inhaling dust. Do not eat, drink or smoke when using this product. IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Keep working clothes separately.
Technical measures:
Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Precautions against fire and explosion:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take any precaution to avoid mixing with combustibles.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage condition:
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. The substance is light-sensitive and hygroscopic.
Incompatible materials: See Section 10.5
Packaging material: No special prescriptions.

7.3. Specific end use(s)

Chemical synthesis, chemical production for printing industry. For industrial use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL values
Consumer/ Worker - Local -Oral exposure - Short term (acute) - no data available
Consumer/ Worker - Local - Oral exposure - Long term (chronic) - no data available
Consumer/ Worker - Local - Dermal exposure - Short term (acute) - no data available
Consumer/ Worker - Local - Dermal exposure - Long term (chronic) - no data available
Consumer/ Worker - Local - Inhalative exposure - Short term (acute) - no data available
Consumer/ Worker - Local - Inhalative - Long term (chronic) - no data available

Consumer/ Worker - Systemic -Oral exposure - Short term (acute) - no data available
Consumer/ Worker - Systemic - Oral exposure - Long term (chronic) - no data available
Consumer/ Worker - Systemic - Dermal exposure - Short term (acute) - no data available
Consumer/ Worker - Systemic - Dermal exposure - Long term (chronic) - no data available
Consumer/ Worker - Systemic - Inhalative exposure - Short term (acute) - no data available
Consumer/ Worker - Systemic- Inhalative - Long term (chronic) - no data available

PNEC values
Compartment - Value - Note(s)
Freshwater - no data - no notes
Marine water - no data - no notes
Freshwater sediment - no data - no notes
Marine water sediment - no data - no notes
Sewage Treatment Plant (STP) - no data - no notes
Intermittent release - no data - no notes
Secondary poisoning - no data - no notes
Soil - no data - no notes

8.2. Exposure controls

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.
In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.

Individual protection measures, such as personal protective equipment:
Avoid contact with skin, eyes or clothing. Do not breathe dust. Wash hands before breaks and at the end of workday. Wash contaminated clothing before reuse. The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

Eye/face protection

Use appropriate protective glasses (EN 166), and face shield.

Skin protection

Use appropriate protective clothes.
Hand protection:
Use appropriate protective gloves (EN 374). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove& 39;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.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators tested and approved under appropriate government standards such as CEN (EU).

Thermal hazard

No thermal hazards known.

Environmental exposure controls

Avoid runoff into storm sewers and ditches which lead to waterways.

More information

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid (crystalline)
Colour	white
Odour	data not available
Melting point/freezing point	122 °C, 124-127 °C
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available (may cause fire or explosion)
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	130-140 °C
pH	1,2 (10% solution at 20 °C)
Kinematic viscosity	data not available
Solubility in water	3000 g/l (20 °C)
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	
Density	1,4 g/cm³
Relative vapour density	7,9
Particle characteristics	data not available

The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

9.2. Other information

Oxidizing properties: strong oxidiser

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity known.

10.2. Chemical stability

Stable at normal temperature and under general work conditions.

10.3. Possibility of hazardous reactions

Contact with combustible material (all combustible organic or readily oxidizable inorganic materials including metal powders) may cause fire.

10.4. Conditions to avoid

Contact with moisture. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take any precaution to avoid mixing with combustibles.

10.5. Incompatible materials

Strong reducing agents, powdered metals, strong bases, dimethyl sulfoxide (DMSO), phosphorus, combustible organic materials.

10.6. Hazardous decomposition products

Hydrogen iodide.

SECTION 11: Toxicological information

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

No ecotoxicological tests have been performed on the product, so we provide the data on the components.

Acute toxicity

Relevant toxicological properties:
Irritation/corrosion (overexposure): May be harmful if inhaled.
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes and skin.
Causes burns, cough, shortness of breath, headache, nausea.
The substance is not identified as probable, possible or confirmed human carcinogen by the IARC.
Summaries of the information derived from the test conducted: No data available.
Information on likely routes of exposure: Ingestion, inhalation, skin contact, eye contact.
Symptoms related to the physical, chemical and toxicological characteristics: No data available.
Delayed and immediate effects as well as chronic effects from short and long-term exposure: Causes severe skin burns and eye damage.
Interactive effects: No data available.
Absence of specific data: No information.

Skin corrosion/irritation

Causes severe skin burns.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data, the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards
not available

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

No ecotoxicological tests have been performed on the product, so we provide the data on the components.

Acute toxicity: Very toxic to aquatic life.
Chronic toxicity: Very toxic to aquatic life with long lasting effects.
Do not let product enter sewers, water courses or soil.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
PBT substance , vPvB substance - not determined.

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
Disposal according to the local regulations.
Information regarding the disposal of the product:
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.nContact a licensed professional waste disposal service to dispose of this material.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.
Information regarding the disposal of the packaging: The packaging has to be disposed in the same manner as the product.
Physical/chemical properties that may affect waste treatment options shall be specified: No data available.
Sewage disposal: No data available.
Special precautions for any recommended waste treatment: No data available.

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.

14.3. Transport hazard class(es)
5.1 Oxidazing substances

14.4. Packing group
II - substances presenting medium danger

14.5. Environmental hazards
ADR/RID: ENVIRONMENTALLY HAZARDOUS. IMDG: Marine pollutant.

14.6. Special precautions for user
No relevant information available.

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

Air transport - ICAO/IATA

Packaging instructions passenger	558
Cargo packaging instructions	562

Marine transport - IMDG

EmS (emergency plan)	F-A, S-Q

SECTION 15: Regulatory information

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

The product does not contain any substance included in annex XIV.

- REGULATION (EC) No 1907/2006 ANNEX XVII

No restrictions can be applied to the mixture or to substances contained in the mixture.

- Regulation (EU) No 649/2012 (PIC) There are no substances listed in this regulation.
- REGULATION (EU) 2019/1148 - Explosive precursors

The mixture does not contain explosives precursors in concentrations equal to or greater than 1%.

- National regulations: No further information available.
- Other regulations, limitations and prohibitive regulations

-The mixture does not contain SVHC substances in concentration equal to or greater than 0.1% by weight.

- Regulation (EC) n. 1005/2009: substances that deplete the ozone layer

The mixture does not contain substances that deplete the ozone layer.

15.2. Chemical safety assessment

No information.

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.
H372	Causes damage to thyroid gland through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.

P405	Store locked up.
P501	Dispose of container to in accordance with national regulations.

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
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EINECS	European Inventory of Existing Commercial Chemical Substances
EK	Identification code for each substance listed in EINECS
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
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
MARPOL	International Convention for the Prevention of Pollution from Ships
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
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Eye Dam.	Serious eye damage
Ox. Sol.	Oxidising solid
Skin Corr.	Skin corrosion
STOT RE	Specific target organ toxicity - repeated 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

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.