

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 11/08/2017

Reviewed on 11/08/2017

1 Identification

- **Product identifier**
- **Trade name:** Vario Sodium periodate F 10 ml
- **Catalogue number:** 00530669, 530660, 4530660
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Application of the substance / the mixture:** Reagent for water analysis
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS08 Health hazard

STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).

- **Hazard pictograms**



GHS03



GHS05



GHS08



GHS09

- **Signal word** Danger

- **Hazard-determining components of labeling:**
sodium periodate

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Hazard statements

- H272 May intensify fire; oxidizer.
- H314 Causes severe skin burns and eye damage.
- H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
- H400 Very toxic to aquatic life.

Precautionary statements

- P210 Keep away from heat. - No smoking.
- P221 Take any precaution to avoid mixing with combustibles.
- P280 Wear protective gloves/protective clothing/eye 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.
- P308+P310 IF exposed or concerned: Immediately call a poison center/doctor.

• **Other hazards** No further relevant information available.

3 Composition/information on ingredients

• **Chemical characterization: Mixtures**• **Description:** Mixture of inorganic compounds.• **Composition and Information on Ingredients:**

Percent ranges are used due to the confidential product information.

CAS: 7790-28-5	sodium periodate	40–50%
EINECS: 232-197-6	⚠ Ox. Sol. 1, H271; ⚠ STOT RE 1, H372; ⚠ Skin Corr. 1C, H314; ⚠ Aquatic Acute 1, H400	
RTECS: SD4550000		

• **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

• **Description of first aid measures**• **General information:** Immediately remove any clothing soiled by the product.• **After inhalation:**

- Supply fresh air.
- Call a doctor immediately.

• **After skin contact:**

- Immediately rinse with plenty of water.
- Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

• **After eye contact:**

- Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
- Call a doctor immediately.

• **After swallowing:**

- Rinse out mouth and then drink 1-2 glasses of water.
- Do not induce vomiting; immediately call for medical help.

• **Most important symptoms and effects, both acute and delayed**

- burns
- after inhalation:
 - coughing
 - breathing difficulty
 - damage to the affected mucous membranes possible
- after swallowing:
 - strong caustic effect
 - sickness
 - vomiting
 - cardiovascular disorders

• **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

• **Extinguishing media**• **Suitable extinguishing agents:** Water, Carbon dioxide (CO₂), Foam, Fire-extinguishing powder• **Special hazards arising from the substance or mixture**

The product is not combustible.

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Has a fire-promoting effect due to release of oxygen.
 Formation of toxic gases is possible during heating or in case of fire.
 In case of fire, the following can be released:

Sodium monoxide
 Sulfur oxides (SO_x)
 Iodine compounds
 Sodium oxide

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.
 Wear fully protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
 Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.
 Avoid substance contact.
 Ensure adequate ventilation
 Use respiratory protective device against the effects of fumes/dust/aerosol.

- **Advice for emergency responders:** Protective equipment: see section 8

- **Environmental precautions:** Do not allow product to reach sewage system or any water course.

- **Methods and material for containment and cleaning up:**

Ensure adequate ventilation.
 Pick up mechanically.
 Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

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

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

- **Advice on safe handling:**

Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of dust.
 Keep ignition sources away - Do not smoke.

- **Hygiene measures:**

Do not inhale dust / smoke / mist.
 Do not get in eyes, on skin, or on clothing.
 Take off immediately all contaminated clothing.
 Wash hands before breaks and at the end of work.
 Do not eat, drink or smoke when using this product.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:**

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
 Store away from flammable substances.
 Store away from oxidizing agents.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.
 Protect from heat and direct sunlight.
 Protect from exposure to the light.
 Store in dry conditions.
 Protect from humidity and water.
 This product is hygroscopic.

- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

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- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.
- **Personal protective equipment:**
- **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
Value for the permeation: Level ≤ 1 (10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed goggles
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment:**
Avoid release to the environment.
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Powder
Color:	White
· Odor: Odorless	
· Odor threshold: Not applicable.	
· pH-value (8.9 g/l) at 20 °C (68 °F): 4.7	
· Melting point/freezing point: 175 (347 °F) °C (347 °F) (CAS 7790-28-5) Decomposition	
· Initial boiling point and boiling range: Not applicable. Decomposition	
· Flash point: Not applicable.	
· Flammability (solid, gas): Product is not flammable. Contact with combustible material may cause fire.	
· Ignition temperature: Not applicable.	
· Decomposition temperature: 270 (518 °F) °C (518 °F) (CAS 7790-28-5)	
· Auto-ignition temperature: Product is not self-igniting.	
· Danger of explosion: Product does not present an explosion hazard.	
· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Oxidizing properties: May intensify fire; oxidizer.	

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· Vapor Pressure:	Not applicable.
· Density at 20 °C (68 °F):	3.2 g/cm ³ (26.7 lbs/gal) (26.7 lbs/gal)
· Relative density:	Not determined.
· Vapor density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies) Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Viscosity:	Not applicable.
· Solvent content: Organic solvents:	0,0 %
Solids content:	100,0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** Substance/product is oxidizing when dry.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Reacts with powdered metals.
 - Reacts with flammable substances.
 - Perchlorates
 - Reacts with reducing agents.
 - Reacts with acids.
 - Violent reactions possible with:
- **Conditions to avoid** Strong heating (decomposition)
- **Incompatible materials:**
 - metals
 - organic substances
- **Hazardous decomposition products:**
 - sodium monoxide, iodine, iodine hydrogen
 - see section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

CAS: 7790-28-5 sodium periodate

LD50 IPR	58 mg/kg (mouse)
NOAEL	3 mg/kg (rat) (oral, 90d) (Registrant, ECHA: read-across CAS 7758-05-6 / target organ: thyroid)

- **Primary irritant effect:**
- **on the skin:** Causes severe skin burns.
- **on the eye:**
 - Causes serious eye damage.
 - Risk of blindness!
- **Sensitization:** Based on available data, the classification criteria are not met.
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· **Other information:** see section 8 / 15· **Synergistic Products:** None· **CMR effects (carcinogeny, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:· **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.· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.· **STOT (specific target organ toxicity) -repeated exposure**

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· Information on components:

CAS: 7790-28-5 sodium periodate

OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test) (read-across CAS 7758-05-6)
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OECD 487	(negative) (In Vitro Mammalian Cell Micronucleus Test) (read-across CAS 7758-05-6)
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· Additional toxicological information:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 7790-28-5 sodium periodate

EC50 0.18 mg/l/48h (Daphnia magna) (OECD 202)

EC50 1.1 mg/l/72 h (Pseudokirchneriella subcapitata) (OECD 201)

LC50 >17 mg/l/96h (rainbow trout) (OECD 203)

· **Bacterial toxicity:** sulfates toxic > 2.5 g/l

· Other information:

Toxic for fish:

sulfates > 7 g/l

· Persistence and degradability .

· Other information:

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

· Waste treatment methods

· Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to hazardous waste disposers.

· Uncleaned packagings:

· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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*14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	UN3085
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG · IATA 	Oxidizing solid, corrosive, n.o.s. (sodium periodate) 3085 Oxidizing solid, corrosive, n.o.s. (sodium periodate), ENVIRONMENTALLY HAZARDOUS OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate), MARINE POLLUTANT OXIDIZING SOLID, CORROSIVE, N.O.S. (sodium periodate)
<ul style="list-style-type: none"> · Transport hazard class(es) · Class · Label · ADR 	5.1 Oxidizing substances 5.1, 8
	
<ul style="list-style-type: none"> · Class · Label 	5.1 (OC2) Oxidizing substances 5.1+8
<ul style="list-style-type: none"> · IMDG 	
	
<ul style="list-style-type: none"> · Class · Label 	5.1 Oxidizing substances 5.1/8
<ul style="list-style-type: none"> · IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	5.1 Oxidizing substances 5.1 (8)
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR): 	No Symbol (fish and tree) Symbol (fish and tree)
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Handling Code · Segregation Code 	Warning: Oxidizing substances 58 F-A,S-Q B H1 Keep as dry as reasonably practicable SG38 Stow "separated from" ammonium compounds. SG49 Stow "separated from" cyanides SG60 Stow "separated from" peroxides
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations 	On passenger aircraft/rail: 1 kg On cargo aircraft only: 15 kg

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<ul style="list-style-type: none"> · ADR · Limited quantity (LQ): · Excepted quantities (EQ) 	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (Extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **New Jersey Right-to-Know List:**

None of the ingredients is listed.

- **New Jersey Special Hazardous Substance List:**

None of the ingredients is listed.

- **Pennsylvania Right-to-Know List:**

CAS: 7757-82-6 sodium sulphate

- **Pennsylvania Special Hazardous Substance List:**

CAS: 7757-82-6 sodium sulphate

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- **Other Regulations**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals:**

None of the ingredients is listed.

- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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- **Relevant phrases**

H271 May cause fire or explosion; strong oxidizer.
 H314 Causes severe skin burns and eye damage.
 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Oral.
 H400 Very toxic to aquatic life.

- **Date of preparation / last revision** 11/08/2017 / 38

- **Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation
 EC50: effective concentration, 50 percent (in vivo)
 OECD: Organisation for Economic Co-operation and Development
 STOT: specific target organ toxicity
 SE: single exposure
 RE: repeated exposure
 EC50: half maximal effective concentration
 IC50: half maximal inhibitory concentration
 NOEL or NOEC: No Observed Effect Level or Concentration
 ACGIH[®] - American Conference of Governmental Industrial Hygienists
 •A1 - Confirmed human carcinogen
 •A2 - Suspected human carcinogen
 •A3 - Confirmed animal carcinogen with unknown relevance to humans
 •A4 - Not classifiable as a human carcinogen
 •A5 - Not suspected as a human carcinogen
 IARC - International Agency for Research on Cancer
 •Group 1 - Carcinogenic to humans
 •Group 2A - Probably carcinogenic to humans
 •Group 2B - Possibly carcinogenic to humans
 •Group 3 - Not classifiable as to carcinogenicity to humans
 •Group 4 - Probably not carcinogenic to humans
 NTP - National Toxicology Program, U.S. Department of Health and Human Services
 •Group K - Known to be Human Carcinogens
 •Group R - Reasonably Anticipated to be Human Carcinogens
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport 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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Ox. Sol. 1: Oxidizing solids – Category 1
 Ox. Sol. 2: Oxidizing solids – Category 2
 Skin Corr. 1C: Skin corrosion/irritation – Category 1C
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

- **Sources**

Data arise from safety data sheets, reference works and literature.
 IUCLID (International Uniform Chemical Information Database)
 International Chemical Safety Cards (ICSCs)

- *** Data compared to the previous version altered.**