



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

1.1 Product identifier

Trade name: **Testoval Mangan Test 0 - 20 mg/l B**

CAS Number:

7790-28-5

EC number:

232-197-6

Registration number 01-2119980983-20

UFI: XYPS-WT98-CC07-W9K5

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

No further relevant information available.

Application of the substance / the preparation:

Reagent for analysis

EuPCS: PC-TEC-19 Reagents and laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Gebrüder Heyl

Analysentechnik GmbH & Co. KG

Orleansstraße 75 b

D-31135 Hildesheim

Phone +49 (0) 5121 2893390

Fax +49 (0) 5121 2893367

E-mail info@heylanalysis.de

Internet www.heylanalysis.de

Further information obtainable from: product safety department

1.4 Emergency telephone number:

Giftinformationszentrum Nord

Phone +49 (0) 551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS03 flame over circle

Ox. Sol. 1

H271 May cause fire or explosion; strong oxidiser.



GHS08 health hazard

STOT RE 1

H372 Causes damage to organs through prolonged or repeated exposure.



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.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS03 GHS05 GHS08 GHS09

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

sodium periodate

· **Hazard statements**

H271 May cause fire or explosion; strong oxidiser.

H314 Causes severe skin burns and eye damage.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat. - No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

· **Labelling of packages where the contents do not exceed 125 ml**

· **Hazard pictograms**



GHS03 GHS05 GHS08 GHS09

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

sodium periodate

· **Hazard statements**

H271 May cause fire or explosion; strong oxidiser.

H314 Causes severe skin burns and eye damage.

H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable

· **vPvB:** Not applicable

· **Determination of endocrine-disrupting properties** Not applicable

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SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
CAS: 7790-28-5 sodium periodate
- **Identification number(s)**
- **EC number:** 232-197-6
- **M-factor**
Aquatic Acute: 1
Aquatic Chronic: 1
- **SVHC** Not applicable.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Call a doctor immediately.
- **After eye contact:**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
- **After swallowing:**
A person vomiting while laying on their back should be turned onto their side.
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In the event of decomposition: danger of explosion!
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear personal protection equipment.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose of the material collected according to regulations.
Clean the affected area carefully; suitable cleaners are:
Warm water

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· **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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

- Prevent formation of dust.
- Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
 - Substance/product is oxidising when dry.
 - Keep ignition sources away - Do not smoke.

· **7.2 Conditions for safe storage, including any incompatibilities**

- **Storage:**
 - **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
 - **Information about storage in one common storage facility:**
 - Store away from flammable substances.
 - Store away from foodstuffs.
 - **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.
 - Store in dry conditions.
 - Store receptacle in a well ventilated area.
- **Recommended storage temperature:** 15 - 25 °C
- **Storage class:** Storage class 5.1A: Highly oxidising substances (TRGS 510)
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
 - The usual precautionary measures are to be adhered to when handling chemicals.
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Store protective clothing separately.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink, smoke or sniff while working.
- **Respiratory protection:**
 - Use suitable respiratory protective device when high concentrations are present.
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
 - Short term filter device:
 - Filter P2
- **Hand protection**



Protective gloves

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Wear gloves according to EN 374.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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

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**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.12 mm

Value for the permeation: Level = 6 (> 480 min)

· **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.12 mm

Value for the permeation: Level = 6 (> 480 min)

· **Eye/face protection**



Tightly sealed goggles according to EN 166

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Solid

· **Colour:**

White

· **Odour:**

Odourless

· **Odour threshold:**

Not determined

· **Melting point/freezing point:**

270 °C

· **Boiling point or initial boiling point and boiling range**

Undetermined

· **Flammability**

Product is not flammable.

· **Lower and upper explosion limit**

· **Lower:**

Not determined

· **Upper:**

Not determined

· **Flash point:**

Undetermined.

· **Auto-ignition temperature:**

262 °C

Not determined.

· **Decomposition temperature:**

290 - 300 °C

· **pH**

3.5 – 5.5 (10%)

· **Viscosity:**

· **Kinematic:**

Not applicable

· **Dynamic:**

Not applicable

· **Solubility**

· **water at 20 °C:**

91 g/l

· **Partition coefficient n-octanol/water (log value)**

Not determined

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· Vapour pressure:	Not applicable
· Density and/or relative density	
· Density at 20 °C:	3.87 g/cm ³
· Relative density	Not determined
· Bulk density:	2,900 kg/m ³
· Vapour density	Not applicable
· Particle characteristics	See section 3.
9.2 Other information	
Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined
· Explosive properties:	Product does not present an explosion hazard. Explosive when mixed with combustible material.
· Solvent content:	
· VOCV (CH)	0.0 %
· Molecular weight	213.89 g/mol
· Change in condition	
· Evaporation rate	Not applicable.
Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	May cause fire or explosion; strong oxidiser.
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
 To avoid thermal decomposition do not overheat.
 Explosive thermal decomposition.
- **10.3 Possibility of hazardous reactions**
 Reacts with flammable substances.
 Reacts with powdered metals.
 Reacts with acids.
 Reacts with reducing agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.

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- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.
- **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.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Causes damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable
- **vPvB:** Not applicable
- **12.6 Endocrine disrupting properties**
- The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
- Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
- Do not allow product to reach ground water, water course or sewage system, even in small quantities.
- Must not reach sewage water or drainage ditch undiluted or unneutralised.
- Danger to drinking water if even extremely small quantities leak into the ground.
- Also poisonous for fish and plankton in water bodies.
- Very toxic for aquatic organisms

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Disposal must be made according to official regulations.
- **Uncleaned packaging:**
- **Recommendation:**
- Packagings that may not be cleansed are to be disposed of in the same manner as the product.

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Disposal must be made according to official regulations.

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SECTION 14: Transport information

· 14.1 UN number or ID number	
· ADR, IMDG, IATA	UN1479
· 14.2 UN proper shipping name	
· ADR	1479 OXIDIZING SOLID, N.O.S. (sodium periodate), ENVIRONMENTALLY HAZARDOUS
· IMDG, IATA	OXIDIZING SOLID, N.O.S. (sodium periodate)
· 14.3 Transport hazard class(es)	
· ADR, IMDG	
	 
· Class	5.1 Oxidising substances.
· Label	5.1
· IATA	
	
· Class	5.1 Oxidising substances.
· Label	5.1
· 14.4 Packing group	
· ADR, IMDG, IATA	I
· 14.5 Environmental hazards:	
· Marine pollutant:	No
	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Oxidising substances.
· Hazard identification number (Kemler code):	50
· EMS Number:	F-A,S-Q
· Stowage Category	D
· Segregation Code	SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides SG60 Stow "separated from" SGG16-peroxides SG61 Stow "separated from" SGG15-powdered metals
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable
· Transport/Additional information:	Void
· ADR	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· Transport category	1
· Tunnel restriction code	E

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· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 1479 OXIDIZING SOLID, N.O.S. (SODIUM PERIODATE), 5.1, I, ENVIRONMENTALLY HAZARDOUS

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** Substance is not listed.
- **Seveso category**
 P8 OXIDISING LIQUIDS AND SOLIDS
 E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)** Substance is not listed.
- **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals**
 Substance is not listed.
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
 Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS** (Upper limit value for the purpose of licensing under Article 5(3))
 Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
 Substance is not listed.
- **REGULATION (EU) 2024/590 on substances that deplete the ozone layer**
 Substance is not listed.
- **National regulations:**
- **Information about limitation of use:**
 Employment restrictions concerning juveniles must be observed.
 Employment restrictions concerning pregnant and lactating women must be observed.
- **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
 The product is subject to Annex 2 of the Chemikalienverbotsverordnung (ChemVerbotsV) - requirements in relation to the delivery
- **Substances of very high concern (SVHC) according to REACH, Article 57**
 Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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SECTION 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. This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Department issuing SDS:** product safety department

· **Date of previous version:** 22.04.2022

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOCV: Lenkungsabgabe auf flüchtigen organischen Verbindungen, Schweiz (Swiss Ordinance on volatile organic compounds)

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 1: Oxidizing solids – Category 1

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

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

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

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