

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/12/2024

Reviewed on 12/12/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Phosphatase-Inhibitor-Mix I, powder
- **Article number:** 39050
- **Application of the substance / the mixture:** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SERVA Electrophoresis GmbH  
Carl-Benz-Str. 7  
D-69115 Heidelberg  
Tel.: +49 6221 13840-0  
FAX: +49 6221 13840-10  
msds.info@serva.de
- **Information department:** Security Department Phone: +49 6221 13840-35
- **Emergency telephone number:**  
Emergency medical information in case of poisoning  
Poison Information Center Mainz-Tel: +49 (0) 6131 19240  
(Advice in German and English)



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08

Toxic to Reproduction 1B H360 May damage fertility or the unborn child.



GHS05

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



GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:** GHS05, GHS07, GHS08

- **Signal word:** Danger

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

trisodium tetraoxovanadate

imidazole

sodium fluoride

- **Hazard statements:**

Harmful if swallowed.

Causes severe skin burns and eye damage.

May damage fertility or the unborn child.

- **Precautionary statements**

Obtain special instructions before use.

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

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If swallowed: Call a poison center/doctor if you feel unwell.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment:**

· **PBT:** PBT - Assessment not available.

· **vPvB:** vPvB - Assessment not available.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Solids mixture

· **Dangerous components:**

13721-39-6	trisodium tetraoxovanadate	5-15%
288-32-4	imidazole	5-15%
7681-49-4	sodium fluoride	1-3%

· **Additional information:**

The product does not contain any other substances that have to be declared according to REACH (Regulation (EC) No. 1907/2006).

For the wording of the listed hazard phrases refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Wash off immediately with plenty of soap and water; rinse thoroughly; seek medical attention.

· **After eye contact:**

Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. Consult an ophthalmologist immediately.

· **After swallowing:**

Rinse out mouth. Call a doctor immediately.

Do not induce vomiting - risk of chemical burns!

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub> extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
Formation of hazardous vapors and gases possible during heating or in case of fire.  
In case of fire, the following can be released:  
Hydrogen fluoride (HF)  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **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.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**  
Dispose contaminated material as waste according to section 13.  
Pick up mechanically.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

6106-24-7	Natrium-Tartrat	30 mg/m <sup>3</sup>
10102-40-6	Disodium molybdate dihydrate	3.8 mg/m <sup>3</sup>
13721-39-6	trisodium tetraoxovanadate	0.016 mg/m <sup>3</sup>
288-32-4	imidazole	0.66 mg/m <sup>3</sup>
7681-49-4	sodium fluoride	17 mg/m <sup>3</sup>

### · PAC-2:

6106-24-7	Natrium-Tartrat	330 mg/m <sup>3</sup>
10102-40-6	Disodium molybdate dihydrate	34 mg/m <sup>3</sup>
13721-39-6	trisodium tetraoxovanadate	0.18 mg/m <sup>3</sup>
288-32-4	imidazole	7.3 mg/m <sup>3</sup>
7681-49-4	sodium fluoride	90 mg/m <sup>3</sup>

### · PAC-3:

6106-24-7	Natrium-Tartrat	2,000 mg/m <sup>3</sup>
10102-40-6	Disodium molybdate dihydrate	210 mg/m <sup>3</sup>
13721-39-6	trisodium tetraoxovanadate	130 mg/m <sup>3</sup>
288-32-4	imidazole	44 mg/m <sup>3</sup>
7681-49-4	sodium fluoride	1,100 mg/m <sup>3</sup>

### · 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.

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## 7 Handling and storage

- **Precautions for safe handling:**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of dust.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **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 oxidizing agents.
- **Further information about storage conditions:** Store container tightly closed and dry.
- **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 following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
 At this time, the other constituents have no known exposure limits.

### 7681-49-4 sodium fluoride (1-3%)

PEL	Long-term value: 2.5 mg/m <sup>3</sup> as F
REL	Long-term value: 2.5 mg/m <sup>3</sup> as F
TLV	Long-term value: 2.5 mg/m <sup>3</sup> as F, A4; BEI

- **Ingredients with biological limit values:**

### 7681-49-4 sodium fluoride (1-3%)

BEI	2 mg/L Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific)
	3 mg/L Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific)

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Additional information about design of technical systems:** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Store protective clothing separately.  
 Avoid contact with the eyes and skin.  
 Wash hands before breaks and at the end of work.
- **Breathing equipment:**  
 Short term filter device:  
 Filter P2

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- **Protection of hands:**

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

- **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.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **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 of a maximum of 15 minutes gloves made of the following materials are suitable:**

Natural rubber, NR

Nitrile rubber, NBR

- **Eye protection:** Tightly sealed goggles

- **Body protection:** Protective work clothing

\*

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information:**

- **Color:**

White

- **Odor:**

Characteristic

- **Odor threshold:**

not determined.

- **Melting point/Melting range:**

No information available

- **Boiling point/Boiling range:**

No information available

- **Flammability (solid, gaseous):**

No information available

- **Explosion limits:**

- **Lower:**

No information available

- **Upper:**

No information available

- **Flash point:**

No information available

- **Decomposition temperature:**

No information available

- **Viscosity:**

- **Kinematic viscosity:**

No information available

- **Dynamic viscosity:**

No information available

- **Solubility in / Miscibility with:**

- **Water:**

Soluble.

- **Partition coefficient (n-octanol/water):**

No information available

- **Vapor pressure:**

No information available

- **Vapor pressure:**

- **Density:**

No information available

- **Relative density:**

No information available

- **Other information**

- **Appearance:**

- **Form:**

Powder

- **Important information on protection of health and environment, and on safety:**

- **Danger of explosion:**

The product is not explosive, but the formation of explosive dust/air mixtures is possible.

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- **VOC %:**
- **VOC content:** 0.00 %

### 10 Stability and reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No further relevant information available.
- **Conditions to avoid:** Avoid high temperatures, flames and sparks
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** In case of fire: see section 5

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Harmful if swallowed.
- **on the skin:** Causes severe skin burns and eye damage.
- **Reproductive toxicity:** May damage fertility or the unborn child.
- **Additional toxicological information:**
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

7681-49-4 sodium fluoride

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:**
- **Additional ecological information:**
- **General notes:**
- Do not allow product to reach ground water, water course or sewage system.
- Water hazard class 2 (Self-assessment): hazardous for water

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
- Dispose of in accordance with official regulations.
- Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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· **Uncleaned packagings:**· **Recommendation:**

Uncleaned packaging must be disposed of in the same way as the product in accordance with official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**· **DOT, ADR, IMDG, IATA**

UN1759

· **UN proper shipping name**· **DOT**

Corrosive solids, n.o.s. (imidazole)

· **ADR**

1759 CORROSIVE SOLID, N.O.S. (imidazole)

· **IMDG, IATA**

CORROSIVE SOLID, N.O.S. (imidazole)

· **Transport hazard class(es)**· **DOT**· **Class**

8 Corrosive substances

· **Label**

8

· **ADR, IMDG, IATA**· **Class:**

8 Corrosive substances

· **Label:**

8

· **Packing group**· **DOT, ADR, IATA**

III

· **IMDG**

Void

· **Environmental hazards**· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 80· **EMS Number:**

F-A,S-B

· **Stowage Category**

A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **ADR**· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· **IMDG**· **Limited quantities (LQ)**

5 kg

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· Excepted quantities (EQ)

Code: EI

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

· UN "Model Regulation":

UN 1759 CORROSIVE SOLID, N.O.S. (IMIDAZOLE), 8, III

## 15 Regulatory information

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

· 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):

13721-39-6 trisodium tetraoxovanadate

ACTIVE

288-32-4 imidazole

ACTIVE

7681-49-4 sodium fluoride

ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

None of the ingredients is listed.

· 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.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

7681-49-4 sodium fluoride

A4

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

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms GHS05, GHS07, GHS08

· Signal word Danger

· Hazard-determining components of labeling:

trisodium tetraoxovanadate

imidazole

sodium fluoride

· Hazard statements

Harmful if swallowed.

Causes severe skin burns and eye damage.

May damage fertility or the unborn child.

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**· Precautionary statements**

Obtain special instructions before use.

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

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

**· National regulations:**
**· Information about limitation of use:**

Employment restrictions concerning pregnant and lactating women 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.

**· Department issuing SDS: Product Safety Department**
**· Contact: +49 6221 13840-35**
**· Date of preparation / last revision 12/12/2024 / -**
**· 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

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

CLP: Regulation on classification, labelling and packaging of substances and mixtures

bw: body weight

UFI: Unique Formula Identifier

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

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Corrosion 1C: Skin corrosion/irritation – Category 1C

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B