

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.12.2011

Version number 1

Revision: 01.03.2010

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

1.1. Product identifier

· Trade name: Phosphatase Inhibitor Mix I

· Article number: 39050

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

· Application of the substance / the preparation Laboratory chemicals

1.3. 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: Product Safety department Tel.: +49 6221 13840-35

· 1.4. Emergency telephone number: +49 6131 19240 (university hospital Mainz)

SERVA
Electrophoresis

2 Hazards identification

2.1. Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008



GHS06

Acute Tox. 2 H330 Fatal if inhaled.



GHS08

Repr. 2 H361d Suspected of damaging the unborn child.



GHS05

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R20/21/22-63: Harmful by inhalation, in contact with skin and if swallowed. Possible risk of harm to the unborn child.



Xi; Irritant

R36/38: Irritating to eyes and skin.

· Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

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Classification system:

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms GHS05, GHS06, GHS08
Signal word Danger
Hazard-determining components of labelling:

disodium tartrate

trisodium tetraoxovanadate

imidazole

sodium fluoride

Hazard statements

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H314 Causes severe skin burns and eye damage.

H361d Suspected of damaging the unborn child.

Precautionary statements

P201 Obtain special instructions before use.

P281 Use personal protective equipment as required.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 Rinse mouth.


















2.3. Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

3.2. Chemical characterization: Mixtures
Description: Mixture of the substances listed below with harmless additions.

Dangerous components:

CAS: 868-18-8 EINECS: 212-773-3	disodium tartrate  Xn R22  Acute Tox. 4, H302	60-80%
CAS: 13721-39-6 EINECS: 237-287-9	trisodium tetraoxovanadate  T R23/24/25  Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 2, H330	15-30%
CAS: 288-32-4 EINECS: 206-019-2	imidazole  T R25;  C R34;  Xn R63  Acute Tox. 3, H301;  Repr. 2, H361d;  Skin Corr. 1B, H314	5-15%
CAS: 7681-49-4 EINECS: 231-667-8	sodium fluoride  T R25;  Xi R36/38 R32  Acute Tox. 3, H301;  Skin Irrit. 2, H315;  Eye Irrit. 2, H319	2.5-7%

Additional information For the wording of the listed risk phrases refer to section 16.

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4 First aid measures

- **4.1. Description of first aid measures**
- **General information**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation** Supply fresh air and to be sure call for a doctor.
- **After skin contact** Immediately rinse with water.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **Information for doctor**
- **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.

5 Firefighting measures

- **5.1. Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2. Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Hydrogen fluoride (HF)
Nitrogen oxides (NO_x)
Carbon monoxide and carbon dioxide
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **6.1. Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **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 contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4. Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.

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Store in dry conditions.

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

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· 8.1. Control parameters

· **Components with limit values that require monitoring at the workplace:**

7681-49-4 sodium fluoride (2.5-7%)

WEL ()	Long-term value: 2.5 mg/m ³ as F
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· **Additional information:** The lists that were valid during the creation were used as basis.

· 8.2. Exposure controls

· **Personal protective equipment**

· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Short term filter device:

Filter P2.

· **Protection of hands:**

Protective gloves.

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. 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:** Safety glasses

· **Body protection:** Protective work clothing.

9 Physical and chemical properties

· 9.1. Information on basic physical and chemical properties

· **General Information**

· **Appearance:**

Form: Solid.

Colour: White

· **Odour:** Characteristic

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|--|---|
| · Change in condition
Melting point/Melting range: undetermined
Boiling point/Boiling range: undetermined | |
| · Flash point: | Not applicable |
| · Self igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Density: | Not determined |
| · Solubility in / Miscibility with Water: | Soluble |
| · Solvent content:
Organic solvents: | 0.0 % |
| Solids content: | 100.0 % |
| · 9.2. Other information | No further relevant information available. |

10 Stability and reactivity

- **10.1. Reactivity**
- **10.2. Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3. Possibility of hazardous reactions** No dangerous reactions known
- **10.4. Conditions to avoid** No further relevant information available.
- **10.5. Incompatible materials:** No further relevant information available.
- **10.6. Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **11.1. Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

288-32-4 imidazole

Oral LD50 220 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful
Irritant

12 Ecological information

- **12.1. Toxicity**

· **Aquatic toxicity:**

288-32-4 imidazole

EC50/48h 341.5 mg/l (Daphnia magna)

EC50/72h 130 mg/l (Scenedesmus subspicatus)

- **12.2. Persistence and degradability** No further relevant information available.

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- **Behaviour in environmental systems:**
- **12.3. Bioaccumulative potential** No further relevant information available.
- **12.4. Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5. Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6. Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1. Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|--|--|
| · 14.1. UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · 14.2. UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · 14.3. Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4. Packing group
· ADR, IMDG, IATA | Void |
| · 14.5. Environmental hazards:
· Marine pollutant: | No |
| · 14.6. Special precautions for user | Not applicable. |
| · 14.7. 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. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

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· **Technical instructions (air):**

Class	Share in %
III	15-30

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2. 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.

· **Relevant phrases**

- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H361d Suspected of damaging the unborn child.
- R22 Harmful if swallowed.
- R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R25 Toxic if swallowed.
- R32 Contact with acids liberates very toxic gas.
- R34 Causes burns.
- R36/38 Irritating to eyes and skin.
- R63 Possible risk of harm to the unborn child.

· **Department issuing MSDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Abbreviations and acronyms:**

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

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

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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