

1. IDENTIFICATION

1.1 Product identifiers

Product name: *P. mu.* PPase
 Other name(s): Pyrophosphatase from *Pasteurella multocoda*
 Product number: 04E-108.0
 CAS No.: 9024-82-2
 EC No.: 3.6.1.1

1.2 Intended uses

Identified uses: Laboratory chemicals and liquid chromatography.

1.3 Supplier information

Company: Integrated Micro-Chromatography Systems, Inc. (IMCS)
 110 Centrum Drive
 Irmo, SC 29063
 Telephone: +1 (888) 560-2073
 Website: www.imcstips.com

1.4 Emergency telephone number

Emergency Phone: VelocityEHS USA and Canada: +1 (800) 255-3924
 VelocityEHS International: +1 (813) 248-0585
 IMCS Technical Support: +1 (888) 560-2073

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This product is not classified as a hazardous material.

2.2 Label Elements

No labeling applicable.

2.3 Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4 Unknown acute toxicity

No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization: Mixture Other name(s): Pyrophosphatase CAS No.: 9024-82-2 EC No.: 3.6.1.1

| CAS No. | Chemical Name | Component Hazard Classifications | % |
|------------|--------------------------|--|---------|
| 26628-22-8 | Sodium azide | H301, H310, H318, H370, H372, H401, H411 | 0.02% |
| 9024-82-2 | <i>P. mu.</i> PPase | At 100% : H315, H319, H335 | 0.01-1% |
| 6132-04-3 | Sodium citrate dihydrate | - | 1-5% |
| 7647-14-5 | Sodium chloride | At 100%: H319 | 3-8% |
| 57-50-1 | Sucrose | - | 2-10% |
| 7732-18-5 | Water | - | 70-94% |

See section 16 for full text of hazardous statements.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information: Avoid skin and eye contact with product. Consult physician if symptoms occur.
After inhalation: Supply fresh air; consult physician if symptoms occur.
After skin contact: Remove contaminated clothing. Wash skin with soap and plenty of water.
After eye contact: Remove contact lenses and rinse opened eye for at least 15 minutes with running water.
After swallowing: Rinse mouth with water; consult physician if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged exposure may cause irritation of respiratory system, skin, and/or eyes. Overexposure to sodium azide causes central nervous system effects, headache, episodes of low blood pressure, and heart palpitations.

4.3 Indication of any immediate medical attention and special treatment needed

If exposed or concerned, seek medical advice and attention. Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 Suitable extinguishing media

CO₂, dry chemical, foam, or water spray.

5.2 Unsuitable extinguishing media

No data available.

5.3 Specialized hazards arising from the substance or mixture:

Hazardous combustion products: Carbon oxides (CO, CO₂), nitrogen oxides, sodium oxides

5.4 Specialized protective equipment or precautions:

No special measures required. Exercise caution when fighting any chemical fire.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment, and emergency procedures

Wear protective clothing. Avoid contact with eyes, skin, and clothing. Avoid breathing vapors, mists, or sprays.

6.2 Environmental precautions

Prevent entry to sewers or public waters.

6.3 Methods and materials for containment and clean up

Contain spills with dikes or absorbents to prevent entry into sewers or streams. Absorb with inert liquid-binding materials (sand, vermiculite, universal binders, sawdust). Containerize materials for proper disposal.

6.4 Reference to other sections

See section 7 for safe handling, section 8 for personal protection equipment, and section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Wash hands and other exposed areas with soap and water after handling. Avoid prolonged contact with eyes, skin, and clothing. Avoid breathing vapors, mists, and sprays. Avoid release into the environment. Handle in accordance with good laboratory practices and safety procedures.

7.2 Conditions for safe storage, including any incompatibilities

Store tightly closed and upright in a cool, dry place. Store away from direct sunlight. Recommended storage temperature is 2-8 °C.

Incompatible materials: strong acids, strong bases, strong oxidizers, water-reactive materials

7.3 Specific end use(s)

For research use only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters: See table.

8.2 Engineering controls

Wear personal protective equipment. Ensure safety shower and eyewash station are near work area. Ensure adequate ventilation.

8.3 Protective equipment and hygiene

Breathing equipment: Not required.

Skin protection: Chemical-resistant gloves, protective clothing.

Eye protection: Safety glasses or goggles.

Hygiene: Wash hands and exposed skin thoroughly with soap and water after handling.

| Sodium azide (26628-22-8) | |
|---------------------------|---|
| PEL | None Listed |
| REL | None Listed |
| TLV (ceiling) | 0.29 mg/m ³ |
| Sucrose (57-50-1) | |
| PEL | 15*, 5** mg/m ³ *Total dust **Respirable fraction |
| REL | 10*, 5** mg/m ³ *Total dust **Respirable fraction |
| TLV | 10 mg/m ³ |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|------------------------------|
| Physical state: | Liquid |
| Appearance: | No data available |
| Odor: | No data available |
| Odor threshold: | No data available |
| pH: | No data available |
| Melting point/range: | No data available |
| Freezing point/range: | No data available |
| Boiling point/range: | No data available |
| Flash point: | No data available |
| Evaporation rate: | No data available |
| Flammability (solid, gas): | Not applicable |
| Upper flammability or explosive limits: | No data available |
| Lower flammability or explosive limits: | No data available |
| Vapor pressure: | No data available |
| Vapor density: | No data available |
| Relative density: | No data available |
| Solubility: | Miscible with water |
| Partition coefficient: n-octanol/water: | No data available |
| Auto-ignition temperature: | Product is not self-igniting |
| Decomposition temperature: | No data available |
| Viscosity: | No data available |

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2 Chemical stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3 Possibility of hazardous reactions:** None expected under normal use.
- 10.4 Conditions to avoid:** Direct sunlight, extreme temperatures, incompatible materials.
- 10.5 Incompatible materials:** Strong acids, strong bases, strong oxidizers, water-reactive materials.
- 10.6 Hazardous decomposition products:** None known.

11. TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

Not classified.

11.2 Primary irritant effect

No data available.

11.3 Additional toxicological information

Overexposure to sodium azide causes central nervous system effects, headache, episodes of low blood pressure, and heart palpitations.

11.4 Carcinogenicity

Not applicable.

| Component Toxicity Information | |
|--------------------------------|--------------|
| Sodium azide (26628-22-8) | |
| LD50 Oral (Rat) | 27 mg/kg |
| LD50 Dermal (Rabbit) | 20 mg/kg |
| Sucrose (57-50-1) | |
| LD50 Oral (Rat) | 29,700 mg/kg |

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Aquatic toxicity: Not classified.
 Persistence and degradability: Not established.
 Bio accumulative potential: Not established.
 Mobility in soil: No data available.

| Component Ecotoxicity Information | |
|-----------------------------------|-----------------|
| Sodium azide (26628-22-8) | |
| LC50 (Fish) Oncorhynchus mykiss | 0.8 mg/L – 96 h |

12.2 Additional ecological information

General notes: Avoid release into the environment.
 Other adverse effects: No further relevant information available.

13. DISPOSAL CONSIDERATIONS

Recommendation: Soak/sweep up and discard. Dispose of in accordance with local, state, and federal regulations.
Uncleaned packaging: Container may remain hazardous when empty. Continue to observe all precautions.

14. TRANSPORT INFORMATION

Not regulated for transport.

15. REGULATORY INFORMATION

- 15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture**
 SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)

Section 302/304 (40CFR355.30/40CFR355.40): 26628-22-8 sodium azide, TPQ/RQ: 500 lbs/1000 lbs

Section 313 (40CFR372.65): 26628-22-8 sodium azide

TSCA Active Listing: 26628-22-8 sodium azide; 7647-14-5 sodium chloride; 57-50-1 sucrose; 7732-18-5 water

15.2 State regulations

| Sodium azide (26628-22-8) | Sucrose (57-50-1) |
|--|--|
| Massachusetts – Right to Know List New Jersey – Right to Know Hazardous Substance List Pennsylvania – RTK (Right to Know) – Environmental Hazard List Pennsylvania – RTK (Right to Know) List | Massachusetts – Right to Know List Pennsylvania – RTK (Right to Know) List Rhode Island – Right to Know List |

16. OTHER INFORMATION

The information in this document is based on the present state of knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. IMCS, Inc and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Date of Last Revision: 11/09/2023

GHS (Globally Harmonized System) full text:

| | |
|---------------|---|
| H301 – Cat. 3 | Toxic if swallowed; acute toxicity, oral |
| H310 – Cat. 2 | Fatal in contact with skin; acute toxicity, dermal |
| H318 – Cat. 1 | Causes serious eye damage; serious eye damage/eye irritation |
| H370 – Cat. 1 | Causes damage to organs; specific target organ toxicity, single exposure |
| H372 – Cat. 1 | Causes damage to organs through prolonged or repeated exposure; specific target organ toxicity, repeated exposure |
| H401 – Cat. 2 | Toxic to aquatic life; hazardous to the aquatic environment, acute hazard |
| H411 – Cat. 2 | Toxic to aquatic life with long lasting effects; hazardous to the aquatic environment, long-term hazard |
| H315 – Cat. 2 | Causes skin irritation; skin corrosion/irritation |
| H319 – Cat.2A | Causes serious eye irritation; serious damage/irritation |
| H335 – Cat. 3 | May cause respiratory irritation; specific target organ toxicity, single exposure; respiratory tract irritation |

Abbreviations and Acronyms

CAS: Chemical Abstracts Service (division of the American Chemical Society)
EC: Enzyme Commission
TSCA: Toxic Substance Control Act