

**Material Safety Data Sheet**  
**Version No.: 2.0 (Rev. date: 2022-07-11)****PB Buffer**

---

**1. Product and company identification**


---

- A. Product Name: PB Buffer
- B. Recommended Use: Research Use Only
- C. Supply Information
  - Company: Bioneer
  - Address: 8-11, Munpyeongseo-ro, Daedeok-gu, Daejeon 306-220, Republic of Korea
  - Emergency telephone number: +82-42-930-8777

---

**2. Hazards identification**

---

- A. Classification of the substance or mixture
  - Acute toxicity (oral), Category 4      H302
  - Acute toxicity (dermal), Category 5      H313
  - Specific target organ toxicity – Repeated exposure, Category 2      H373
- B. Label elements
  - Hazard pictograms  

  - Signal word  
Warning
  - Hazard statements  
H302 Harmful if swallowed.  
H313 May be harmful in contact with skin.  
H373 May cause damage to organs (Skin, respiratory system/digestive system) through prolonged or repeated exposure (Oral, Dermal, Inhalation).
  - Precautionary statements  
Precaution:  
P260 Do not breathe gas, mist, dust, spray, vapors, fume.  
P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

Treatment:

P301+P312 IF SWALLOWED: Call medical institutions, a doctor, a POISON CENTER if you feel unwell.

P312 Call medical institutions, a doctor, a POISON CENTER if you feel unwell.

P314 Get medical attention, medical advice if you feel unwell.

P330 Rinse mouth.

Storage:

Not applicable

Disposal:

P501 Dispose of contents and container according to waste related regulations.

C. Hazards – Other hazards which do not result in classification – Hazard Risk

Not applicable

### 3. Composition/information on ingredients

Chemical name	Synonyms	CAS No.	Weight (%)
Guanidine hydrochloride	Guanidine monohydrochloride	50-01-1	> 50%

### 4. First aid measures

A. First-aid measures after eye contact

Rinse eyes with water as a precaution.

B. First-aid measures after skin contact

Wash skin with plenty of water.

Take off contaminated clothing.

C. First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing.

D. First-aid measures after ingestion

Rinse mouth.

Call a poison center or a doctor if you feel unwell.

E. Other medical advice or treatment

Treat symptomatically.

### 5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, dry powder, foam, carbon dioxide.

Unsuitable extinguishing media: No data available

B. Special hazards arising from the substance or mixture

No data available

C. Special protective equipment and precautions for fire-fighters

---

Protection during firefighting:

Do not attempt to take action without suitable protective equipment.

Self-contained breathing apparatus.

Complete protective clothing.

---

## 6. Accidental release measures

---

### A. Personal precautions, protective equipment and emergency procedures

Ventilate spillage area.

Do not breathe gas, mist, dust, spray, vapors, fume.

Avoid contact with skin, eyes and clothing.

Do not attempt to take action without suitable protective equipment.

Dispose of materials or solid residues at an authorized site.

### B. Environmental precautions and protective procedures

Avoid release to the environment.

### C. Methods and material for containment and cleaning up

Take up liquid spill into absorbent material.

---

## 7. Handling and storage

---

### A. Precautions for safe handling

#### Precautions for safe handling

Ensure good ventilation of the work station.

Do not breathe gas, mist, dust, spray, vapors, fume.

Do not get in eyes, on skin, or on clothing.

Wear personal protective equipment.

#### Hygiene measures

Wash contaminated clothing before reuse.

Do not eat, drink or smoke when using this product.

Always wash hands after handling the product.

### B. Conditions for safe storage

#### Storage conditions

Store in a well-ventilated place.

Keep cool.

---

## 8. Exposure controls / personal protection

---

### A. Occupational Exposure Limits

No data available

### B. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.

---

---

Environmental exposure controls: Avoid release to the environment.

C. Personal protection

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment

Eye protection: Safety glasses

Hand protection: Protective gloves

Skin and body protection: Wear suitable protective clothing

---

## 9. Physical and chemical properties

---

A. Appearance: Liquid

B. Odor: No data available

C. Odor threshold: No data available

D. pH: No data available

E. Melting / freezing point: Not applicable / No data available

F. Initial boiling point and boiling range: No data available

G. Flash point: No data available

H. Evaporation rate: No data available

I. Flammability (solid, gas): Not applicable

J. Upper / lower flammability or explosive limits: No data available

K. Vapor pressure: No data available

L. Solubility: No data available

M. Vapor density: No data available

N. Relative density: No data available

O. Partition coefficient n-octanol/water: No data available

P. Auto-ignition temperature: No data available

Q. Decomposition temperature: No data available

R. Viscosity: No data available

S. Molecular mass: No data available

---

## 10. Stability and Reactivity

---

A. Chemical stability and Possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions.

No dangerous reactions known under normal conditions of use.

B. Conditions to avoid

None under recommended storage and handling conditions.

C. Incompatible materials

No data available

D. Hazardous decomposition products

---

---

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

---

## 11. Toxicological information

---

### A. Information on exposure routes

Oral: Harmful if swallowed.

Skin and eyes contact: May be harmful in contact with skin.

Inhalation: Not classified

### B. Health hazards

Acute toxicity (oral): Harmful if swallowed.

Acute toxicity (dermal): May be harmful in contact with skin.

Acute toxicity (inhalation): Not classified

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory sensitization: Not classified

Skin sensitization: Not classified

Carcinogenicity: Not classified

Mutagenicity: Not classified

Reproductive toxicity: Not classified

STOT–single exposure: Not classified

STOT–repeated exposure: May cause damage to organs through prolonged or repeated exposure (Oral, Dermal, Inhalation).

Aspiration hazard: Not classified

---

## 12. Ecological information

---

### A. Exotoxicity

Ecology – general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute): Not classified

Hazardous to the aquatic environment, long-term (chronic): Not classified

### B. Persistence and degradability

No data available

### C. Bioaccumulative potential

---

No data available

D. Mobility in soil

No data available

E. Other adverse effects

Ozone: Not classified

Other adverse effects: No additional information available

13. Disposal considerations

A. Disposal method

Dispose of contents/container in accordance with licensed collector's sorting instructions.

B. Disposal precaution

No data available

14. Transport information

UN RTDG	ADR	IMDG	IATA
A. UN number			
Not regulated for transport			
B. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
C. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
D. Packaging group			
Not applicable	Not applicable	Not applicable	Not applicable
E. Marine pollutant			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

A. Special precautions for user: No data available

15. Regulatory information

A. Occupational Safety and Health Act

Hazardous Substances Prohibited for Manufacturing: Not applicable

Hazardous Substances Requiring Permission: Not applicable

Threshold Limit Values Chemicals: Not applicable

Hazardous Substances Below Permissible Level: Not applicable

Hazardous Substances Subject to Working Environment Measurement: Not applicable

---

Hazardous Substances Subject to Workers Requiring Health Examination: Not applicable

Hazardous Substances Subject to Control: Not applicable

Substance Subject to PSM Submission: Not applicable

B. Chemicals Control Act

Toxic Chemicals: Not applicable

Prohibited Chemicals: Not applicable

Restricted Chemicals: Not applicable

Substance requiring preparation for accidents: Not applicable

C. ACT ON REGISTRATION, EVALUATION, ETC. OF CHEMICALS (K-REACH)

Korea Existing Chemicals Inventory (KECI): Applicable

Priority Existing Chemical ('PEC') – subject to registration: Not applicable

Priority Control Substances (Korea): Not applicable

CMR Substances (Korea): Not applicable

D. Safety Control of Dangerous Substances Act

Safety Control of Dangerous Substances Act: Applicable

E. Wastes Control Act

Hazardous Substances in Designated wastes: Not applicable

Types of wastes: No data available

F. Other Domestic and International Regulatory Information

Domestic

Persistent Organic Pollutants(POPs) Control Act: Not applicable

Ozone Depleting Substances(ODS): Not applicable

International (EU Regulatory Information)

EU Candidate list (SVHC): Contains no substance on the REACH candidate list

EU authorization list (REACH Annex XIV): Contains no REACH Annex XIV substances

EU restriction list (REACH Annex XVII): Not applicable

US Regulatory Information

CERCLA Section 103 (40CFR302.4): Not applicable

EPCRA Section 302 (40CFR355.30): Not applicable

EPCRA Section 304 (40CFR355.40): Not applicable

EPCRA Section 313 (40CFR372.65): Not applicable

International agreements

No data available

---

## 16. Other information

---

Bioneer Corporation makes no warranty or representation to its completeness, accuracy or currency. This material is intended for use by persons with pertinent technical skills and at their discretion and risk. It is the responsibility of the

---

---

user to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. Disposal of hazardous material may be subject to federal, state or local laws or regulations.

---