Material Safety Data Sheet

Version No.: 2.0 (Rev. date : 2022-03-22)

P2 Buffer

1. Product and company identification

Product Name : P2 Buffer

Recommended Use : For Research Use Only

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 hazardous chemical

Metallic corrosive substances : Class 1

Acute toxicity (oral): Class 4

Acute toxicity (skin): Class 3

B. Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statements

H290 May corrode metal

H302 Hazardous if swallowed

H311 Toxic in contact with skin

C. Precautionary statements

- Prevention :

  P234 Store only in original container

  P264 Wash hands thoroughly after handling

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

  P280 Wear protecive glove/protective clothing/eye protection/face protection

- Response :

  P301+P312 Seek medical attention if swallowed and feeling uncomfortable

  P302+P352 IF ON SKIN: Gently wash with plenty of soap and water.

  P312 Call a POISON CENTER or doctor/physician you feel unwell.

  P330 Rinse mouth.

  P361 + 364 Immediately remove all contaminated clothing and wash before reuse.

  P390 Absorb leaking water to prevent material damage

- Storage :

  P405 Store locked up.

  P406 Please store it in a corrosive container (as defined by the manufacturer or administrative office) as it is corrosive to metals.

- Disposal :

  P501 Dispose of contents/container to information seted forth in the relevant laws and regulations.

D. Other Risks·Hazards Not Included in Risk·Hazard Classification

Health 3 Fire 1 Reactivity 1

3. Composition/information on ingredients

Chemical name	Synonyms	CAS No.	Weight (%)
Sodium hydroxide		1310-73-2	< 2%
Sodium dodecyl sulfate		151-21-3	< 5%

4. First aid measures

A. Eye contact

Rinse skin and eyes with water for at least 20 minutes immediately upon contact with substance.

Take immediate medical attention.

B. Skin Contact

Take immediate medical attention.

Remove contaminated clothing and shoes and isolate contaminated areas.

Flush skin and eyes with water for at least 20 minutes immediately upon contact with substance.

Wash clothes and shoes thoroughly before reuse.

C. Inhalation : Take urgent medical attention. Move to Fresh air. If you do not breathe, perform artificial respiration. If breathing is difficult, supply oxygen.

D. Ingestion: Do not feed anything by mouth to an unconscious person. Take immediate medical attention.

E. Notes to Physician : Have a medical personnel know about the substance and take protective measures. Do not administer adrenergic preparations.

5. Fire-fighting measures

A. Proper (improper) extinguishing Media

Use of alcohol, carbon dioxide or water spray in the digestion of this substance

Use dry sand or dirt during choking digestion

B. Special hazards fromchemiclas

May corrode metal

The container may explode when heated.

Some may generate flammable hydrogen gas in contact with metals

Non-flammable, the substance itself is not burned, but can be decomposed during heating to cause corrosive/toxic fume

May cause irritation, corrosive, toxic gas in the event of fire

C. Firefighting Protection and Precautions

Some may be transported at high temperatures

Leaking water can cause contamination

May cause skin and eye burns during contact

Let the ditch be dug up for the disposal of the extinguishing water and keep the material from scattering.

If you are not dangerous, move the container in the fire area

After the extinguishing of the tank fire, the container is cooled with plenty of water

If there is a high tone in the tank fire or if the tank is discolored, pull back immediately

When the tank fires, pull back from the tank in flames

6. Accidental release measures

A. Personal Precautions

Immediately wipe off any spills and follow preventive measures in the protective section.

Remove all ignition sources

If you are not at risk, stop the leak.

Do not touch the damaged container or leaking water without wearing adequate protection.

Cover with plastic sheet and spread

Be aware of the materials and conditions that should be avoided

B. Environmental precautions :

Avoid ingress into water, sewers, basements and confined spaces

C. Methods and material for containment and cleaning up

Absorb the spills into an inert material (e.g. dry sand or soil) and put it in a chemical waste container.

Absorb the liquid and flush contaminated area with detergent and water.

Absorb leaking water to prevent material damage.

7. Handling and storage

A. Handling precautions

Wash the treated area thoroughly after handling.

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

After the container has been emptied, the product residue may still remain, so follow all the MDS/label precautions

Please use the handling/storage carefully.

Carefully open the forehead before opening.

Do not breathe vapors from the heated material.

Do not enter the storage area without proper ventilation.

Be aware of the materials and conditions that should be avoided.

Work with reference to engineering management and personal protective equipment

B. Storage precautions

Store only in the original container.

Store in a lock storage area.

Store in a corrosive container (as defined by the manufacturer or administrative office), as it is corrosive to metals.

Drain the empty drum completely and prevent it from being properly put back on the drum regulator or place it properly.

Keep away from food and drinks.

8. Exposure controls / personal protection

A. Chemical Exposure Standards, Biological Exposure Standards Etc. : No data available

B. Proper physical management : Facilities for storing or using this material should be equipped with a washing machine and safety shower.

C. Personal protection

○ Respiratory protection

Wear a respirator that is certified by the Occupational Safety and Health agency to match the physical and chemical properties of the exposed material.

Wear an oxygen-deficient (< 19.6%), Pine-mask, or self-feeding respirator.

Wear the certified respiratory protection of the Korea Occupational Safety and Health agency to match the physical and chemical properties of the particulate matter being exposed.

○ Eyes protection : No data available.

○ Hands protection : No data available.

○ Body protection : No data available

9. Physical and chemical properties

A. Appearance : Achromatic

B. Odor : No information

C. Odor threshold : No information

D. pH : No information

E. Freezing/Melting point : No information

F. Boiling point and Range : No information

G. Flash point : No information

H. Evaporation speed : No information

I. Flammability (Solid, Gas) : No information

J. Ignition or explosion range : No information

K. Vapor pressure : No information

L. Solubility : No information

M. Vapor density : No information

N. Specific weight : No information

O. n-Octanol/Water solubility coefficient : No information

P. Self-Flammability : No information

Q. Decomposition temperature : No information

R. Viscosity : No information

S. Molecular weight : No information

10. Stability and Reactivity

A. Chemical stability and toxic reaction potential

May corrode metal

The container may explode when heated.

Some may generate flammable hydrogen gas in contact with metals

Non-flammable, the substance itself is not burned, but can be decomposed during heating to cause corrosive/toxic fume

May cause irritation, corrosive, toxic gas in the event of fire

B. Conditions to avoid

Heat, sparks, flames, etc. Ignition source

C. Conditions to avoid

Flammable materials, reducing materials, metals

D. Hazardous decomposition products

May cause irritating and very toxic gases by pyrolysis or burning during burning

Irritant, toxic gases

11. Toxicological information

A. Probable exposure paths

Irritation, nausea, vomiting skin irritation, skin disorders eye irritation

B. Health hazard information

○ Acute toxicity : No information

○ Skin corrosion/irritation : No information

○ Serious eye damage/eye irritation : No information

○ Respiratory or skin sensitization : No information

○ Carcinogenicity : No information

○ Germ cell mutagenicity: No information

○ Reproductive toxicity : No information

○ Specific target organ toxicity (single exposure) : No information

○ Specific target organ toxicity (repeated exposure) : No information

○ Aspiration hazard: No information

12. Ecological information

A. Biological toxicity : No information

B. Persistency and Degradability : No information

C. Bioconcentration : No information

D. Soil mobility : No information

E. Other toxic effects : No information

13. Disposal considerations

A. Disposal method : Dispose of contents and containers in accordance with the regulations, as specified in the Waste Control Act.

B. Disposal considerations : Please take into account the precautions set forth in the Waste Control Act.

14. Transport information

A. UN No : 1824

B. UN proper shipping name : SODIUM HYDROXIDE, SOLID

C. Transport hazard class : 8

D. Packaging group : II

E. Environmental hazards : No classification information

F. Special Safety Measures for Users Regarding Shipping or Shipping Measures : No classification information

15. Regulatory information

A. Industrial safety and health regulation : No information

B. Hazardous chemical management regulation : No information

C. Dangerous material management regulation : No information

D. Waste management regulation : No information

E. Other domestic and international regulations : No information

16. Other information

A. Source of Information

Corporate Solution From Thomson Micromedex(http://csi.micromedex.com)

ECB-ESIS(European chemical Substances Information System)(http://ecb.jrc.it/esis)

ECOTOX Database, EPA(http://cfpub.epa.gov/ecotox)

IUCLID Chemical Data Sheet, EC-ECBInternational Chemical Safety Cards(ICSC) (http://www.nihs.go.jp/ICSC)

TOXNET, U.S. National Library of Medicine(http://toxnet.nlm.nih.gov)

The Chemical Database, The Department of Chemistry at the University of Akron (http://ull.chemistry.uakron.edu/erd)

B. Initial Issue Date : 2018-02-19

C. Revision Count and Latest Revision Date : 2022-03-22

D. Others

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 lawsor regulations.