

Material Safety Data Sheet
Version No.: 0 (Rev. date : 2021-01-21)

RS Buffer

1. Product and company identification

Product Name : RS buffer

Recommended Use : For Research Use Only

Supply Information

- Company : Bioneer
 - Address : 8-11 Munpyeongseo-ro, Daedeok-gu, Daejeon 34302, Republic of Korea
 - Emergency telephone number : 82-42-930-8777
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2. Hazards identification

A. Classification of the hazardous chemical

Acute toxicity (Inhalation: Dust/Mist): Category 3

B. Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statements

H331

Precautionary statements

- Prevention :
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area
 - Response :
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P304+P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P311 : Call a POISON CENTER or doctor/physician.

– Storage :

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

– Disposal :

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

C. Other Risks-Hazards Not Included in Risk-Hazard Classification

No information

3. Composition/information on ingredients

Chemical name	Synonyms	CAS No.	Weight (%)
Ammonium sulfate		7783-20-2	< 40%

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.

Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance. Induce artificial respiration with proper respiratory medical device.

D. Ingestion:

Take immediate medical attention.

Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance. Induce artificial respiration with proper respiratory medical device.

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 from chemicas

The container may explode when heated.

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

Fire-fighters should wear appropriate protective equipment

Fight fire from a safe distance

Molten material can be transported

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

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles

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. :

Domestic Regulation : TWA : 10mg/m³ STEL : 20mg/m³

ACHIH Regulation : No data available

Biological Exposure Standards : No data available

B. Proper physical management : Use process separation, local ventilation, minimizing air contamination below exposure thresholds etc. for physical management. Install face and emergency showers where this material is stored or used.

C. Personal protection

Respiratory protection

Use respiratory protection appropriate for the particular material and its physical and chemical properties

Eyes protection :

Use goggles appropriate for the particular material and its physical and chemical properties

Must be equipped with a washing machine and safety shower near the user.

Hands protection :

Handle with gloves. Gloves must be inspected prior to use.

Body protection :

impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

9. Physical and chemical properties

A. Appearance : No information

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

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- 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
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10. Stability and Reactivity

A. Chemical stability and toxic reaction potential

Toxic gases may form by decomposition under high heat.

Container may explode upon heating.

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

B. Conditions to avoid

Heat, sparks, flames, etc. Ignition source

C. Conditions to avoid

Flammable materials, reducing material

D. Hazardous decomposition products

corrosive/toxic fumes.

11. Toxicological information

A. Probable exposure paths

No information

B. Health hazard information

Acute toxicity

– Oral

LD50 2000 mg/kg Rat (OECD Guideline 423)

– Skin

LD50 2000 mg/kg Rat (OECD Guideline 434)

– Inhalation

Dust LC50 0.64 mg/l 4 hr Guinea pig

Skin corrosion/irritation

No irritation

Serious eye damage/eye irritation

No irritation

Respiratory or skin sensitization : No information

Carcinogenicity

Industrial Safety Regulation : No information

Department of Labor Notice : No information

IARC : No information

OSHA : No information

ACGIH : No information

NTP : No information

EU CLP : No information

Germ cell mutagenicity

Microbe reverse mutation test: Negative

Chromosomal aberration test: Negative

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- Reproductive toxicity : No information
 - Specific target organ toxicity (single exposure) : No information
 - Specific target organ toxicity (repeated exposure) :
NOAEL= 256 mg/kg bw/day (male), 284 mg/kg bw/day (female) (OECD TG 453)
 - Aspiration hazard: No information
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12. Ecological information

A. Biological toxicity

- Fish

LC50 53 mg/l 96 hr *Oncorhynchus mykiss*

- Crustacean

EC50 121.7 mg/l 48 hr *Ceriodaphnia acanthina*

- Avian

No information

B. Persistency and Degradability

- Persistency

log Kow 0.48

- Degradability : No information

C. Bioconcentration : No information

D. Soil mobility : No information

E. Other toxic effects :

Fish: *Oncorhynchus gorboscha*: NOEC, 61d, =11 mg/L

Crustacean: *Ceriodaphnia dubia*: NOEC, 10d, =51mg/L

Algae: *Phaeodactylum tricornutum*:NOEC, 96h, =7.5 mg/L

13. Disposal considerations

- A. Disposal method : Dispose of contents and containers in accordance with the regulations, as specified in the Waste Control Act.
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B. Disposal considerations : Please take into account the precautions set forth in the Waste Control Act.

14. Transport information

A. Land transport (ARD/RID)

- UN No : No information
- UN proper shipping name : No information
- Transport hazard class : No information
- Packaging group : No information
- Environmental hazards : No information
- Special Safety Measures for Users Regarding Shipping or Shipping Measures :
Tunnel restriction code : No information

B. Inland transport (AND) : No information

C. Air transport (IATA)

- UN No : No information
- UN proper shipping name : No information
- Transport hazard class : No information
- Packaging group : No information
- Environmental hazards : No information
- Special Safety Measures for Users Regarding Shipping or Shipping Measures : No information

D. Sea transport (IMDG)

- UN No : No information
 - UN proper shipping name : No information
 - Transport hazard class : No information
 - Packaging group : No information
 - Environmental hazards : No information
 - Special Safety Measures for Users Regarding Shipping or Shipping Measures :
No information
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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

Domestic Regulation : Not Applicable

International Regulations: Not Applicable

16. Other information

A. Source of Information

ECOSAR

IPCS

IUCLID

NLM

B. Initial Issue Date : 2021-01-21

C. Revision Count and Latest Revision Date : 0

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 laws or regulations.
