

Create Date: 2024-01-25 00:00:00/ Revision Date: 2024-01-25 00:00:00/ Print Date: 2024-01-25

SECTION 1: COMPANY AND PRODUCT INFORMATION

1.1 Product identifiers

Product name : CHES Buffer 0.5M, pH 9.0
Product code : 40320046
CAS number : 103-47-9
Synonyms : 2-(Cyclohexylamino)ethanesulfonic acid

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

Identified uses : For research and laboratory use only.

1.3 Details of the supplier of the safety data sheet

Address : Genelinx International Inc, dba bioWORLD
4150 Tuller Rd. Suite 228
Dublin, OH 43017

Email : tech@bio-world.com

Phone : 614-792-8680, Toll free: 1-888-bio-PLUS

Fax : 614-792-8685

1.4 Emergency telephone number

Emergency phone : 1-888-bio-PLUS

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

All components of this substance are non-hazardous.

2.2 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Not classified as hazardous under GHS regulations.

2.3 Label elements and precautionary statements

Pictogram : None

Signal word : None

Hazard statement(s) : No applicable hazard statements.

Precautionary statement(s) : No applicable precautionary statements.

2.4 Hazards not otherwise classified (HNOC) or not covered by GHS

No unclassified hazards known.

2.5 NFPA Rating

Health hazard : 0

Fire hazard : 0

Reactivity hazard : 0

2.6 HMIS Rating

Health hazard	: 0
Chronic health hazard	: 0
Reactivity hazard	: 0
Flammability	: 0
Physical hazard	: 0

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

All components of this substance are non-hazardous.

3.2 Hazardous components & classification

No chemicals or constituents are known to be present that require disclosure under applicable regulations.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In case of inhalation

If inhaled, move person to fresh air and monitor breathing. If not breathing, give artificial ventilation. Consult a physician if symptoms are severe or persistent.

In case of skin contact

Immediately wash with excess soap and water. If spilled on clothing, remove all affected clothing. Consult a physician if symptoms are severe or persistent.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of ingestion

Only induce vomiting if recommended by medical personnel. If subject is unconscious, do not give anything by mouth. If conscious, rinse mouth with water. Consult a physician if symptoms are severe or persistent.

4.2 Most important symptoms and effects, both acute and delayed

Not available

4.3 Indication of any immediate medical attention and special treatment needed

No special treatment indicated. Provide treatment in accordance with exhibited systems.

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable extinguishing media

Water spray, alcohol-resistant foam, dry chemical, and carbon dioxide are suitable

5.2 Unsuitable extinguishing media

Not available.

5.3 Special hazards arising from the substance

Carbon oxides, nitrogen oxides (NO_x), and Sulphur oxides can be formed under fire conditions.

5.4 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8

6.2 Environmental precautions

Prevent product from entering public sewers and waterways.

6.3 Methods and material for containment and cleaning up

Use inert absorbent material to absorb any spilled or leaked product. Keep in suitable, closed containers for disposal.

For proper disposal see section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Corrosive hazard. Wear protective gloves/clothing and eye/face protection.

For precautions see section 2

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions : Store in cool, well ventilated area. Keep container tightly closed.

Incompatible materials : Strong oxidizing agents are incompatible with this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

This product does not contain any substances materials with occupational exposure limit values.

8.2 Engineering controls

Follow good industrial hygiene and safety practices when handling this product.

8.3 Personal protective equipment

Eye/face protection : Use only government-approved safety glasses with side-shields.

Skin protection : Use gloves when handling this product. Inspect gloves before use to ensure suitability for use. Remove without exposing skin to the gloves outer surface. Discard used gloves according to all pertinent laws and/or current good practices (cGXP). Wash hands with soap and water.

- Body protection : Wear appropriate clothing. Ensure clothing is in good condition, with no holes or tears. When selecting clothing, consider the concentration and amount of substance to be handled.
- Respiratory protection : Use only approved respirators and components which comply with CDC and NIOSH (US) or CEN (EU) regulations. Required only when vapors or aerosols are created.
- Control of environmental exposure : Prevent product from entering the environment, especially through public sewers or waterways.
- General hygiene considerations : Comply with general industrial hygiene practice guidelines.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance : Clear, colorless
- b) Physical states : Liquid
- c) Odor : Not available
- d) Odor threshold : Not available
- e) Melting point : Not available
- f) Boiling point range : Not available
- g) pH : 9.0
- h) Density : Not available
- i) Flash point : Not available
- j) Evaporation rate : Not available
- k) Flammability : Not available
- l) Upper/lower flammability or explosive limits: : Not available
- m) Vapor pressure : Not available
- n) Vapor density : Not available
- o) Relative density : Not available
- p) Water solubility : Not available
- q) Partition coefficient:n-octanol/water : Not available
- r) Autoignition temperature : Not available
- s) Decomposition temperature : Not available
- t) Kinematic viscosity : Not available
- u) Explosive properties : Not available
- v) Oxidizing properties : Not available
- w) Solubility in other solvents : Not available
- x) Surface tension : Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No special reactivity is known.

10.2 Chemical stability

Product is stable when stored as recommended.

10.3 Stability note(s)

No special or unusual instability known.

10.4 Polymerization

No known polymerization possible.

10.5 Possibility of hazardous reactions

No known hazardous reactions are possible.

10.6 Incompatible materials

Strong oxidizing agents are incompatible with this product.

10.7 Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Hydrogen sulfide may be formed under fire conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity

LD50 Oral : Rat - female - >2,000 mg/kg (OECD Test Guideline 423)

LD50 Dermal : No toxicity data available.

LC50 Inhalation : No toxicity data available.

11.2 Skin corrosion/irritation

Reconstructed human epidermis (RhE) - 15 mins - no skin irritation (OECD Test Guideline 439)

11.3 Serious eye damage/eye irritation

Chicken - no eye irritation (OECD Test Guideline 438)

11.4 Respiratory or skin sensitization

Local lymph node assay - mouse - negative (OECD Test Guideline 429)

11.5 Germ cell mutagenicity

Ames test - E.Coli/Salmonella typhimurium - with and without metabolic activation - negative (OECD Test Guideline 471)

11.6 Carcinogenicity

IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.7 Reproductive toxicity

No reproductive toxicity data available.

11.8 Specific target organ toxicity – single exposure

No specific organ toxicity data available.

11.9 Specific target organ toxicity – repeated exposure

No specific organ toxicity data available.

11.10 Aspiration hazard

No aspiration hazard data available.

11.11 Additional Information

RTECS: No RTECS data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

No ecological toxicity data available.

12.2 Aquatic toxicity

Static test EC50 - Daphnia magna (water flea) - 48 hrs - >100 mg/L (OECD Test Guideline 202)
Static test ErC50 - Pseudokirchneriella subcapitata - 72 hrs - >100 mg/L (OECD Test Guideline 201)

12.3 Persistence and degradability

Aerobic - 28 days - 11.55% - not readily biodegradable (OECD Test Guideline 301B)

12.4 Bioaccumulative potential

No bioaccumulation data available.

12.5 Mobility in soil

No soil mobility data available.

12.6 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment is not required/was not conducted.

12.7 Other adverse effect

No other adverse effect data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product

Disposal should be in accordance with applicable regional, national and local laws and regulations.

13.2 Packaging

Packaging should be disposed of in the same manner as unused product.

13.3 Recommendation

Disposal must be made according to official regulations.

SECTION 14: TRANSPORTATION INFORMATION

14.1 DOT (US)

Not a dangerous good under DOT (US) regulations.

14.2 IMDG

Not a dangerous good under IMDG regulations.

14.3 IATA

Not a dangerous good under IATA regulations.

SECTION 15: REGULATORY INFORMATION

15.1 SARA

SARA 302: This product and components are not subject to the reporting requirements of SARA Title III, Section 302.

Section 313: This product does not contain any components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

SARA 311/312: No SARA hazard.

15.2 Clean water act (CWA)

No chemicals are present in this product that are subject to regulation under the Clean Water Act.

15.3 Right to know components

Massachusetts : No chemicals are present which require disclosure under the Massachusetts Right to Know Act.

Pennsylvania : No chemicals are present which require disclosure under the Pennsylvania Right to Know Act.

New Jersey : No chemicals are present which require disclosure under the New Jersey Right to Know Act.

California : This product contains no chemicals which are known to the State of
proposition 65 California to cause cancer, or birth defects or other reproductive harm.
components

SECTION 16: OTHER INFORMATION

16.1 Disclaimer

This product is offered by bioWORLD for research, laboratory or further manufacturing use. Not for human use or consumption. The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant-ability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall bio-WORLD.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if bio-WORLD.com has been advised of the possibility of such damages.

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16.2 Preparation Information

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