

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 17, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** Proteinase K (20 mg/mL)  
**Cat. No.:** BK-ENZ-PTK  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification

Respiratory Sensitizer (Solid/Liquid) - Category 1

### Pictograms



### Signal Word

Danger

### Hazardous Statements - Health

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

### Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

### Precautionary Statements - Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P284 - In case of inadequate ventilation, wear respiratory protection.

### Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### Precautionary Statements - Storage

No precautionary statement available.

### Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulations.

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0039450-01-6	Proteinase, Tritirachium album serine	1% - 5%

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

### Eye Contact

If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice/attention.

### Skin Contact

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Get medical advice/attention.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire : Water spray, fog or alcohol-resistant foam.

### Unsuitable Extinguishing Media

Do not use straight stream of water.

### Specific Hazards in Case of Fire

Fire will produce irritating gases.

### Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Breathing protection is required.

### Personal Precautions

Do not breathe vapor or mist. Avoid contact with skin, eye or clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal. Ventilate area after clean-up is complete.

## SECTION 7) HANDLING AND STORAGE

### General

Wash hands after use. Avoid contact with skin, eye or clothing. Do not breathe vapor or mist. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Eyewash stations and showers should be available in areas where this material is used and stored. All containers must be properly labelled.

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

### Storage Room Requirements

Store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH Carcinogen	ACGIH TLV Basis	ACGIH Notations	OSHA TWA (mg/m3)
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Chemical Name	OSHA TWA (ppm)	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA Carcinogen	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	NIOSH TWA (mg/m3)	NIOSH TWA (ppm)
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Chemical Name	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH Carcinogen
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The information in this Section does not list non-hazardous components that might have relevant OSHA Tables (Z1, Z2, Z3), OSHA TWA (mg/m3) regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

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Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame and contact with incompatible materials

### Hazardous Reactions/Polymerization

No data available.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Based on available data, the classification criteria are not met.

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

#### **Aspiration Hazard**

Based on available data, the classification criteria are not met.

#### **Carcinogenicity**

Based on available data, the classification criteria are not met.

#### **Germ Cell Mutagenicity**

Based on available data, the classification criteria are not met.

#### **Reproductive Toxicity**

Based on available data, the classification criteria are not met.

#### **Respiratory/Skin Sensitization**

May cause allergy or asthma symptoms or breathing difficulties if inhaled

#### **Serious Eye Damage/Irritation**

Based on available data, the classification criteria are not met.

#### **Skin Corrosion/Irritation**

Based on available data, the classification criteria are not met.

#### **Specific Target Organ Toxicity - Repeated Exposure**

Based on available data, the classification criteria are not met.

#### **Specific Target Organ Toxicity - Single Exposure**

Based on available data, the classification criteria are not met.

#### **Likely Routes of Exposure**

Inhalation, Ingestion, Skin contact, Eye contact

## **SECTION 12) ECOLOGICAL INFORMATION**

#### **Toxicity**

Based on available data, the classification criteria are not met.

#### **Mobility in Soil**

No data available.

#### **Bio-accumulative Potential**

No data available.

#### **Persistence and Degradability**

No data available.

#### **Other Adverse Effects**

No data available.

## **SECTION 13) DISPOSAL CONSIDERATIONS**

#### **Waste Disposal**

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

## SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

## SECTION 15) REGULATORY INFORMATION

### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
0039450-01-6	Proteinase, Triticachium album serine	1% - 5%	SARA312

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

## SECTION 16) OTHER INFORMATION

### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

### Version 1.0:

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## DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



# SAFETY DATA SHEET

Revision Date: Feb 13, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 17, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** RNase A (20 mg/mL)  
**Cat. No.:** BK-ENZ-RNA  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

None of the chemicals in this product are hazardous according to the GHS.

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell or are concerned.

### Eye Contact

If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice/attention.

### Skin Contact

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Get medical advice/attention.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.



## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Large Fire: Dry chemical, CO<sub>2</sub>, alcohol resistant foam or water spray Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

### Unsuitable Extinguishing Media

Do not use water jet.

### Specific Hazards in Case of Fire

Dense smoke may be generated while burning.

### Fire-Fighting Procedures

Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray is recommended to cool or protect exposed materials or structures. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Do not touch or walk through spilled material. Ventilate closed spaces before entering.

### Recommended Equipment

See section 8 for specifics on protective personal equipment (PPE).

### Personal Precautions

Avoid breathing vapor or mist. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Environmental Precautions

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## SECTION 7) HANDLING AND STORAGE

### General

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Use good personal hygiene practices. Wash hands after use.

### Ventilation Requirements

Report ventilation failures immediately. Use only with adequate ventilation to control air contaminants to their exposure limits.

### Storage Room Requirements

Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Keep container(s) tightly closed and properly labeled. Containers that have been opened must be carefully resealed to prevent leakage.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtpm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHAcarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHAspm", "OSHAtpm", "OSHAtpm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

### Hazardous Reactions/Polymerization

No data available.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Based on available data, the classification criteria are not met.

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

### Aspiration Hazard

Based on available data, the classification criteria are not met.

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

### Reproductive Toxicity

Based on available data, the classification criteria are not met.

### Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

### Serious Eye Damage/Irritation

Based on available data, the classification criteria are not met.

### Skin Corrosion/Irritation

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

### Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

## SECTION 12) ECOLOGICAL INFORMATION

### Toxicity

Based on available data, the classification criteria are not met.

### Mobility in Soil

No data available.

### Bio-accumulative Potential

No data available.

#### Persistence and Degradability

No data available.

#### Other Adverse Effects

No data available.

### SECTION 13) DISPOSAL CONSIDERATIONS

#### Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws.

### SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

### SECTION 15) REGULATORY INFORMATION

#### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

### SECTION 16) OTHER INFORMATION

#### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL - Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US

**Version 1.0:**

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**DISCLAIMER**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
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## SECTION 1) IDENTIFICATION

**Product Name:** Buffer CLE3  
**Cat. No.:** BK-LYS-CLE  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification

Acute aquatic toxicity - Category 3  
Eye Irritation - Category 2

### Pictograms



### Signal Word

Warning

### Hazardous Statements - Health

H319 - Causes serious eye irritation

### Hazardous Statements - Environmental

H402 - Harmful to aquatic life

### Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P103 - Read label before use.

### Precautionary Statements - Prevention

P273 - Avoid release to the environment.  
P264 - Wash thoroughly after handling.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary Statements - Response

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 - If eye irritation persists: Get medical advice/attention.

### Precautionary Statements - Storage

No precautionary statement available.

### Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulations.

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
Trade Secret	Trade Secret	1% - 10%

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Get medical advice/attention if you feel unwell or are concerned. Remove source of exposure or move person to fresh air and keep comfortable for breathing.

### Eye Contact

If eye irritation persists: Get medical advice/attention. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face.

### Skin Contact

If skin irritation occurs or you feel unwell: Get medical advice/attention. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. Wash contaminated clothing before reuse.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Call a POISON CENTER/doctor.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire : Water spray, fog or alcohol-resistant foam.

### Unsuitable Extinguishing Media

Do not use straight stream of water.

### Specific Hazards in Case of Fire

Fire will produce irritating gases. Runoff may pollute waterways

### Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

### Personal Precautions

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and Materials for Containment and Cleaning Up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal. Ventilate area after clean-up is complete.

## SECTION 7) HANDLING AND STORAGE

### General

Wash hands after use. Avoid contact with skin, eye or clothing. Avoid breathing vapor or mist. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. All containers must be properly labelled. Eyewash stations and showers should be available in areas where this material is used and stored

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

### Storage Room Requirements

Store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtppm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHACarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHAsppm", "OSHAtmg", "OSHAtppm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties



Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

### Hazardous Reactions/Polymerization

Will not occur.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Based on available data, the classification criteria are not met.

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight  
The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight  
The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

#### **Aspiration Hazard**

Based on available data, the classification criteria are not met.

#### **Carcinogenicity**

Based on available data, the classification criteria are not met.

#### **Germ Cell Mutagenicity**

Based on available data, the classification criteria are not met.

#### **Reproductive Toxicity**

Based on available data, the classification criteria are not met.

#### **Respiratory/Skin Sensitization**

Based on available data, the classification criteria are not met.

#### **Serious Eye Damage/Irritation**

Causes serious eye irritation

#### **Skin Corrosion/Irritation**

Based on available data, the classification criteria are not met.

#### **Specific Target Organ Toxicity - Repeated Exposure**

Based on available data, the classification criteria are not met.

#### **Specific Target Organ Toxicity - Single Exposure**

Based on available data, the classification criteria are not met.

#### **Likely Routes of Exposure**

Inhalation, Ingestion, Skin contact, Eye contact

### **SECTION 12) ECOLOGICAL INFORMATION**

#### **Toxicity**

Harmful to aquatic life

#### **Mobility in Soil**

No data available.

#### **Bio-accumulative Potential**

No data available.

#### **Persistence and Degradability**

No data available.

#### **Other Adverse Effects**

No data available.

### **SECTION 13) DISPOSAL CONSIDERATIONS**

#### **Waste Disposal**

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

### **SECTION 14) Transport Information**

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

## SECTION 15) REGULATORY INFORMATION

### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
Trade Secret	Trade Secret	1% - 10%	SARA312,TSCA

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

## SECTION 16) OTHER INFORMATION

### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

### Version 1.0:

Revision Date: Feb 11, 2021  
First Edition.

## DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 16, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** Buffer BL3  
**Cat. No.:** BK-BND-BL3  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification

Acute toxicity Inhalation - Category 4  
Acute toxicity Oral - Category 4  
Eye Irritation - Category 2A  
Skin Irritation - Category 2

### Pictograms



### Signal Word

Warning

### Hazardous Statements - Health

H332 - Harmful if inhaled  
H302 - Harmful if swallowed  
H319 - Causes serious eye irritation  
H315 - Causes skin irritation

### Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P103 - Read label before use.

### Precautionary Statements - Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271 - Use only outdoors or in a well-ventilated area.  
P264 - Wash thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a POISON CENTER/doctor if you feel unwell.

P301 + P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P330 - Rinse mouth.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P321 - Specific treatment (see First-aid on this label).

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing. And wash it before reuse.

### Precautionary Statements - Storage

No precautionary statement available.

### Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulations.

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000050-01-1	Guanidine, hydrochloride (1:1)	25% - 75%

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

### Eye Contact

If eye irritation persists: Get medical advice/attention. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face.

### Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes or until medical aid is available. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Call a POISON CENTER/doctor.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire : Water spray, fog or alcohol-resistant foam.

### Unsuitable Extinguishing Media

Do not use straight stream of water.

### Specific Hazards in Case of Fire

Fire will produce irritating and toxic gases.

### Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Recommended Equipment

Breathing protection is required. Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

### Personal Precautions

Do not breathe vapor or mist. Avoid contact with skin, eye or clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal. Ventilate area after clean-up is complete.

## SECTION 7) HANDLING AND STORAGE

### General

Wash hands after use. Avoid contact with skin, eye or clothing. Do not breathe vapor or mist. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. All containers must be properly labelled. Eyewash stations and showers should be available in areas where this material is used and stored

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

### Storage Room Requirements

Store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact,

chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtpm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHACarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHAsppm", "OSHAtmg", "OSHAtppm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

#### Conditions To Avoid

Avoid heat, sparks, flame and contact with incompatible materials

#### Hazardous Reactions/Polymerization

Will not occur.

#### Incompatible Materials

Strong bases, acids, and oxidizing agents.

#### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

#### Acute Toxicity

Harmful if inhaled

Harmful if swallowed

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is 614.855 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

#### Aspiration Hazard

Based on available data, the classification criteria are not met.

#### Carcinogenicity

Based on available data, the classification criteria are not met.

#### Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

#### Reproductive Toxicity

Based on available data, the classification criteria are not met.

#### Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

#### Serious Eye Damage/Irritation

Causes serious eye irritation

#### Skin Corrosion/Irritation

Causes skin irritation

#### Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

#### Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

#### Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

## SECTION 12) ECOLOGICAL INFORMATION

#### Toxicity

Based on available data, the classification criteria are not met.

#### Mobility in Soil

No data available.

#### Bio-accumulative Potential



No data available.

#### Persistence and Degradability

No data available.

#### Other Adverse Effects

No data available.

### SECTION 13) DISPOSAL CONSIDERATIONS

#### Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

### SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

### SECTION 15) REGULATORY INFORMATION

#### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
0000050-01-1	Guanidine, hydrochloride (1:1)	25% - 75%	SARA312,TSCA

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

### SECTION 16) OTHER INFORMATION

#### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit;

**Version 1.0:**

Revision Date: Feb 11, 2021

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**DISCLAIMER**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 16, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** Buffer CW1  
**Cat. No.:** BK-WSH-CW1  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification

Acute toxicity Inhalation - Category 4  
Eye Irritation - Category 2A  
Skin Irritation - Category 2

### Pictograms



### Signal Word

Warning

### Hazardous Statements - Health

H332 - Harmful if inhaled  
H319 - Causes serious eye irritation  
H315 - Causes skin irritation

### Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P103 - Read label before use.

### Precautionary Statements - Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271 - Use only outdoors or in a well-ventilated area.  
P264 - Wash thoroughly after handling.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P312 - Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P321 - Specific treatment (see First-aid on this label).

P332 + P313 - If skin irritation occurs: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing. And wash it before reuse.

#### Precautionary Statements - Storage

No precautionary statement available.

#### Precautionary Statements - Disposal

No precautionary statement available.

#### Hazards Not Otherwise Classified (HNOC)

None.

### SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000050-01-1	Guanidine, hydrochloride (1:1)	1% - 25%
Trade Secret	Trade Secret	0% - 5%

### SECTION 4) FIRST-AID MEASURES

#### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

#### Eye Contact

If eye irritation persists: Get medical advice/attention. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face.

#### Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes or until medical aid is available. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

#### Ingestion

Rinse mouth. If you feel unwell/If concerned: Call a POISON CENTER/doctor.

#### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

#### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### SECTION 5) FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire : Water spray, fog or alcohol-resistant foam.

#### Unsuitable Extinguishing Media

Do not use straight stream of water.

### Specific Hazards in Case of Fire

Fire will produce irritating and toxic gases.

### Fire-Fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Recommended Equipment

Breathing protection is required. Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA).

### Personal Precautions

Do not breathe vapor or mist. Avoid contact with skin, eye or clothing.

### Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Absorb Liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal. Ventilate area after clean-up is complete.

## SECTION 7) HANDLING AND STORAGE

### General

Wash hands after use. Avoid contact with skin, eye or clothing. Do not breathe vapor or mist. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. All containers must be properly labelled. Eyewash stations and showers should be available in areas where this material is used and stored

### Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

### Storage Room Requirements

Store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

## Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtpm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHACarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHAsppm", "OSHAtmg", "OSHAtppm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame and contact with incompatible materials

### Hazardous Reactions/Polymerization

Will not occur.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Harmful if inhaled

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is 11.8592 mg/l

### Aspiration Hazard

Based on available data, the classification criteria are not met.

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

### Reproductive Toxicity

Based on available data, the classification criteria are not met.

### Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

### Serious Eye Damage/Irritation

Causes serious eye irritation

### Skin Corrosion/Irritation

Causes skin irritation

### Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

### Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

## SECTION 12) ECOLOGICAL INFORMATION

### Toxicity

Based on available data, the classification criteria are not met.

### Mobility in Soil

No data available.

### Bio-accumulative Potential

No data available.

### Persistence and Degradability

No data available.

### Other Adverse Effects

No data available.

## SECTION 13) DISPOSAL CONSIDERATIONS

### Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

## SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

## SECTION 15) REGULATORY INFORMATION

### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
0000050-01-1	Guanidine, hydrochloride (1:1)	1% - 25%	SARA312,TSCA
Trade Secret	Trade Secret	0% - 5%	SARA312,TSCA

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

## SECTION 16) OTHER INFORMATION

### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

### Version 1.0:

Revision Date: Feb 11, 2021



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## DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 16, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** Buffer CW2  
**Cat. No.:** BK-WSH-CW2  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/ Manufacturing component/ Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

None of the chemicals in this product are hazardous according to the GHS.

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell or are concerned.

### Eye Contact

If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice/attention.

### Skin Contact

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Get medical advice/attention.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Large Fire: Dry chemical, CO<sub>2</sub>, alcohol resistant foam or water spray Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

### Unsuitable Extinguishing Media

Do not use water jet.

### Specific Hazards in Case of Fire

Dense smoke may be generated while burning.

### Fire-Fighting Procedures

Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray is recommended to cool or protect exposed materials or structures. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Do not touch or walk through spilled material. Ventilate closed spaces before entering.

### Recommended Equipment

See section 8 for specifics on protective personal equipment (PPE).

### Personal Precautions

Avoid breathing vapor or mist. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Environmental Precautions

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## SECTION 7) HANDLING AND STORAGE

### General

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Use good personal hygiene practices. Wash hands after use.

### Ventilation Requirements

Report ventilation failures immediately. Use only with adequate ventilation to control air contaminants to their exposure limits.

### Storage Room Requirements

Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Keep container(s) tightly closed and properly labeled. Containers that have been opened must be carefully resealed to prevent leakage.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtpm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHAcarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHASppm", "OSHAtmg", "OSHAtpm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

### Hazardous Reactions/Polymerization

No data available.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Based on available data, the classification criteria are not met.

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

### Aspiration Hazard

Based on available data, the classification criteria are not met.

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

### Reproductive Toxicity

Based on available data, the classification criteria are not met.

### Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

### Serious Eye Damage/Irritation

Based on available data, the classification criteria are not met.

### Skin Corrosion/Irritation

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

### Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

## SECTION 12) ECOLOGICAL INFORMATION

### Toxicity

Based on available data, the classification criteria are not met.

### Mobility in Soil

No data available.

### Bio-accumulative Potential

No data available.

#### Persistence and Degradability

No data available.

#### Other Adverse Effects

No data available.

### SECTION 13) DISPOSAL CONSIDERATIONS

#### Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws.

### SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

### SECTION 15) REGULATORY INFORMATION

#### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

### SECTION 16) OTHER INFORMATION

#### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL - Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US

**Version 1.0:**

Revision Date: Feb 11, 2021

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**DISCLAIMER**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

# SAFETY DATA SHEET

Revision Date: Feb 11, 2021  
Supersedes Date: N.A.  
Version: 1.0  
Date Printed: Mar 16, 2021

## SECTION 1) IDENTIFICATION

**Product Name:** Buffer EB  
**Cat. No.:** BK-ELB-EB1  
**Manufacturer's Name:** Circulomics Inc.  
**Address:** 701 E. Pratt St. Baltimore, MD, US, 21202  
**Emergency Phone:** (410) 996-4762  
**Information Phone Number:** (410) 996-4762  
**Fax:**  
**Product/Recommended Uses:** Laboratory use/Manufacturing component/Research

## SECTION 2) HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Not a hazardous substance or mixture according to United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

### Hazards Not Otherwise Classified (HNOC)

None.

## SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

None of the chemicals in this product are hazardous according to the GHS.

## SECTION 4) FIRST-AID MEASURES

### Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell or are concerned.

### Eye Contact

If irritation occurs, cautiously rinse eyes with lukewarm, gently flowing water for 5 minutes, while holding the eyelids open. If eye irritation persists: Get medical advice/attention.

### Skin Contact

Rinse/wash with lukewarm, gently flowing water and mild soap for 5 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

### Ingestion

Rinse mouth. If you feel unwell/If concerned: Get medical advice/attention.

### Most Important Symptoms and Effects, Both acute and Delayed

No data available.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. No specific treatment is required. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.



## SECTION 5) FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Large Fire: Dry chemical, CO<sub>2</sub>, alcohol resistant foam or water spray Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

### Unsuitable Extinguishing Media

Do not use water jet.

### Specific Hazards in Case of Fire

Dense smoke may be generated while burning.

### Fire-Fighting Procedures

Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray is recommended to cool or protect exposed materials or structures. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

## SECTION 6) ACCIDENTAL RELEASE MEASURES

### Emergency Procedure

Isolate hazard area and keep unauthorized personnel away. Do not touch or walk through spilled material. Ventilate closed spaces before entering.

### Recommended Equipment

See section 8 for specifics on protective personal equipment (PPE).

### Personal Precautions

Avoid breathing vapor or mist. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

### Environmental Precautions

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### Methods and Materials for Containment and Cleaning Up

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

## SECTION 7) HANDLING AND STORAGE

### General

Avoid breathing vapor or mist. Avoid contact with skin, eye or clothing. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. Use good personal hygiene practices. Wash hands after use.

### Ventilation Requirements

Report ventilation failures immediately. Use only with adequate ventilation to control air contaminants to their exposure limits.

### Storage Room Requirements

Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Keep container(s) tightly closed and properly labeled. Containers that have been opened must be carefully resealed to prevent leakage.

## SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye Protection

Wear eye protection with side shields or goggles.

### Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

### Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

None of the chemicals in Section 3 are regulated under "ACGIH\_carcinogen", "ACGIH\_Notations", "ACGIH\_TLV\_Basis", "ACGIHsmg", "ACGIHsppm", "ACGIHtmg", "ACGIHtpm", "NIOSH\_carcinogen", "nioshsmg", "nioshsppm", "nioshtmg", "nioshtppm", "OSHA\_SkinDesignation", "OSHA\_Tables\_Z1\_Z2\_Z3", "OSHAcarcinogen - OSHA Carcinogen", "OSHAsmg", "OSHAspm", "OSHAtmg", "OSHAtpm"

## SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

Density	N/A
Specific Gravity	N/A
% VOC	N/A
Density VOC	N/A
% HAPS	N/A
Density HAPS	N/A
% VHAPS	N/A
Density VHAPS	N/A
% Solids By Weight	N/A

Appearance	N/A
Odor Threshold	N/A
Odor Description	N/A
pH	N/A
Water Solubility	N/A
Flammability	N/A
Flash Point Symbol	N/A
Flash Point	N/A
Viscosity	N/A
Lower Explosion Level	N/A
Upper Explosion Level	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Freezing Point	N/A
Melting Point	N/A
Low Boiling Point	N/A
High Boiling Point	N/A
Auto Ignition Temp	N/A
Decomposition Pt	N/A
Evaporation Rate	N/A
Coefficient Water/Oil	N/A

## SECTION 10) STABILITY AND REACTIVITY

### Stability

Stable under normal storage and handling conditions.

### Conditions To Avoid

Avoid heat, sparks, flame, high temperature and contact with incompatible materials.

### Hazardous Reactions/Polymerization

No data available.

### Incompatible Materials

Strong bases, acids, and oxidizing agents.

### Hazardous Decomposition Products

Oxides of carbon.

## SECTION 11) TOXICOLOGICAL INFORMATION

### Acute Toxicity

Based on available data, the classification criteria are not met.

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

### Aspiration Hazard

Based on available data, the classification criteria are not met.

### Carcinogenicity

Based on available data, the classification criteria are not met.

### Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

### Reproductive Toxicity

Based on available data, the classification criteria are not met.

### Respiratory/Skin Sensitization

Based on available data, the classification criteria are not met.

### Serious Eye Damage/Irritation

Based on available data, the classification criteria are not met.

### Skin Corrosion/Irritation

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Repeated Exposure

Based on available data, the classification criteria are not met.

### Specific Target Organ Toxicity - Single Exposure

Based on available data, the classification criteria are not met.

### Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

## SECTION 12) ECOLOGICAL INFORMATION

### Toxicity

Based on available data, the classification criteria are not met.

### Mobility in Soil

No data available.

### Bio-accumulative Potential

No data available.

#### Persistence and Degradability

No data available.

#### Other Adverse Effects

No data available.

### SECTION 13) DISPOSAL CONSIDERATIONS

#### Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws.

### SECTION 14) Transport Information

	U.S. DOT Information	IMDG Information	IATA Information
UN number:	Not Regulated	Not Regulated	Not Regulated
Proper shipping name:	N/A	N/A	N/A
Hazard class:	Not Applicable	Not Applicable	Not Applicable
Packaging group:	Not Applicable	Not Applicable	Not Applicable
Hazardous substance (RQ):	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available		

### SECTION 15) REGULATORY INFORMATION

#### Safety, health and environmental regulations

The product has been evaluated against the following relevant regulations: U.S.A Toxic Substance Control Act (TSCA) California Proposition 65 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

CAS	Chemical Name	% By Weight	Regulation List
No applicable CAS	No applicable chemical	-	-

The information in this Section does not list non-hazardous components that might have relevant SARA312, TSCA regulatory values, if they are present at less than 50%. Please contact manufacturer for more information.

### SECTION 16) OTHER INFORMATION

#### Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL - Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US

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