

SAFETY DATA SHEET

Date: July 6, 2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Dewaxing Solution
Catalog Number: 99876-30ML
Unit Size: 30 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification**Signal word** Danger**Health hazards**

Aspiration hazard (Category 1), H304

Physical hazards None**Hazard statements**

H304 – May be fatal if swallowed and enters airways.

Precautionary statements

P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P331 – Do NOT induce vomiting.

P405 – Store locked up.

P501 – Dispose of contents/ container to an approved waste disposal plant.

GHS hazard pictogram**WHMIS Classification**

Aspiration hazard (Category 1), H304

WHMIS hazard pictogram**NFPA Rating**

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP]

Aspiration hazard (Category 1), H304

Labeling according to Regulation (EC) No 1272/2008[CLP]**Hazard pictogram**

Signal word Danger

Hazard statements

H304 – May be fatal if swallowed and enters airways.

Precautionary statements

P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P331 – Do NOT induce vomiting.

P405 – Store locked up.

P501 – Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Hexadecane	544-76-3	208-878-9	80-100%*	Asp. Tox. 1; H304

*Exact concentration withheld as trade secret.

4. FIRST-AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapor or mist.

Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Store at room temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Substance: None

Personal protective equipment

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Dewaxing Solution
Appearance	Liquid
Odor	Odorless
Odor threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 18 °C (64 °F) at 1,013 hPa
Boiling point	285 °C 545 °F at 1,013 hPa
Flash point	112 °C (234 °F) - Regulation (EC) No. 440/2008, Annex, A.9
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	0.004 hPa at 20 °C (68 °F) - Regulation (EC) No. 440/2008, Annex, A.4
Vapor density	7.82 - (Air = 1.0)
Relative density	0.773 g/cm3 at 15 °C (59 °F)
Solubility	Insoluble
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	4.29 mm2/s at 20 °C (68 °F) -
Explosive properties	No data available
Oxidizing properties	No data available
Surface tension	24.47 mN/m at 25 °C (77 °F)
Relative vapor density	7.82 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

No data available

Hazardous decomposition productsHazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION**Hexadecane****Acute toxicity****Oral LD50** LD50 Oral - Rat - male and female - > 5,000 mg/kg
(OECD Test Guideline 401)**Inhalation LC50** No data available**Dermal LD50** LD50 Dermal - Rabbit - male and female - > 3,160 mg/kg
(OECD Test Guideline 402)**Other information on acute toxicity** No data available**Skin corrosion/irritation** Skin - RabbitResult: No skin irritation - 4 h
(OECD Test Guideline 404)**Serious eye damage/eye irritation**Eyes - Rabbit
Result: No eye irritation - 24 h
(OECD Test Guideline 405)**Respiratory or skin sensitization**Maximization Test - Guinea pig
Result: negative
(OECD Test Guideline 406)**Germ cell mutagenicity**Test Type: Ames test
Test system: S. typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negativeTest Type: Micronucleus test
Species: Mouse
Cell type: Red blood cells (erythrocytes)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: KerosineTest Type: Mutagenicity (mammal cell test): chromosome aberration.
Species: Rat
Cell type: Bone marrow
Application Route: Intraperitoneal
Method: OECD Test Guideline 475
Result: negative
Remarks: (in analogy to similar products)Test Type: dominant lethal test
Species: Mouse
Cell type: sperm
Application Route: Inhalation
Method: OECD Test Guideline 483
Result: negative
Remarks: (in analogy to similar products)

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - \geq 5,000 mg/kg

Remarks: (in analogy to similar products)

Repeated dose toxicity - Rat - male and female - Dermal - NOAEL (No observed adverse effect level) - $>$ 495 mg/kg

Remarks: (in analogy to similar products)

RTECS: ML9200000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption of large quantities:

narcosis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish semi-static test LL50 - Fish - $>$ 1,028 mg/l - 96 h
Remarks: (in analogy to similar products)

Toxicity to daphnia and other aquatic invertebrates Remarks: (in analogy to similar products) (n-hexadecane)

Toxicity to algae EL50 - Pseudokirchneriella subcapitata (green algae) - $>$ 3,200 mg/l - 72 h
Remarks: (in analogy to similar products)

(n-hexadecane)

Persistence and degradabilityBiodegradability aerobic - Exposure time 28 d
Result: 74 % - Readily biodegradable.
(OECD Test Guideline 306)**Bioaccumulative potential**Bioaccumulation *Salmo salar* (Atlantic salmon) - 7 d
- 1700 µg/l(n-hexadecane)

Bioconcentration factor (BCF): 5.6

Mobility in soil No information available**Results of PBT and vPvB assessment** No information available**Other adverse effects** No information available**Additional information** No information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT (US), TDG	Not dangerous goods during transportation
UN number	None
UN proper shipping name	None
Transport hazard class	None
Packing group	None
Environmental hazards	None
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	None
Special precaution for user	None

15. REGULATION INFORMATION**US Federal Regulations**

US Toxic Substances Control Act (TSCA): White mineral oil: listed

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312 Hazards: No chemicals were found.

WHMIS Hazard Class Aspiration hazard (Category 1), H304**WHMIS Hazard Pictogram**

16. OTHER INFORMATIONClassification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3Prepared by: Regulatory Department
Biotium Inc.

Version no. 1
Revision date (Initials) 7/5/2023 (ET)
Reason for revision

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

SAFETY DATA SHEET

Date: July 6, 2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CELLDATA FFPE Binding Buffer
Catalog Number: 99863
Unit Size: 15 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification None**Signal word** None**Health hazards** None**Physical hazards** None**Hazard statements** None**Precautionary statements** None**GHS hazard pictogram** None**WHMIS classification** None**NFPA Rating**

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP]

Acute Tox. 4

Skin Irrit. 2

Eye Irrit. 2

Labeling according to Regulation (EC) No 1272/2008[CLP]**Hazard pictogram****Signal word** Warning**Hazard statements**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary statementsPrevention

P264 - Wash hands thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

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

Response

P330 - Rinse mouth.

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

P301 + P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

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

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

P332 + P313 - IF SKIN irritation occurs: Get medical advice/attention.

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

P362- Take off contaminated clothing and wash before reuse.

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Guanidine hydrochloride	50-01-1	200-002-3	20-50%*	Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2

*Exact concentration withheld as trade secret.

4. FIRST-AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapor or mist.
Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.
Store at room temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

None

Personal protective equipment**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	CELLDATA FFPE Binding Buffer
Appearance	Liquid
Odor	Odorless
Odor threshold	No data available
pH	5-7
Melting point/freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Water soluble
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Contact with acids or bleach liberates toxic gases.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Acids or bleach.

Hazardous decomposition products

Contact with acids or bleach liberates toxic gases. Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity (guanidine hydrochloride)**Oral LD50** LD50 Oral - Rat - female - 773.6 mg/kg
(OECD Test Guideline 401)**Inhalation LC50** LC50 Inhalation - Rat - female - 4 h - 3.181 mg/l
(OECD Test Guideline 403)**Dermal LD50** LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)**Other information on acute toxicity** No data available**Skin corrosion/irritation**

Skin - Rabbit

Result: Skin irritation - 24 h
(US-EPA)

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation.
(OECD Test Guideline 405)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

Buehler Test - Guinea pig

Result: negative
(OECD Test Guideline 406)**Germ cell mutagenicity**

Not mutagenic in Ames Test.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster fibroblasts

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 Days - NOAEL (No observed adverse effect level) - 100 mg/kg

RTECS: MF4300000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

The following applies to parasympathomimetic agents in general: after oral uptake and depending on the dose, these physiologically highly active substances cause salivation, rhinorrhoea, and in some cases also lacrimation, perspiration, contraction of the pupils, dizziness, vomiting, colics, diarrhoea. Risk of collapse and cardiac arrest. Inhalation of dusts and aerosols leads to the above symptoms. Respiration is accelerated at first, then slows down.

Handle in accordance with good industrial hygiene and safety practice.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

RTECS: MF4300000

12. ECOLOGICAL INFORMATION

Toxicity LC50 - *Leuciscus idus* (Golden orfe) - 1,759 mg/l

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 70.2 mg/l - 48 h
(OECD Test Guideline 202)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Guanidinium nitrate

Toxicity to algae

static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) - 33.5 mg/l - 72 h

(Regulation (EC) No. 440/2008, Annex, C.3)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Guanidinium nitrate

Toxicity to bacteria
static test EC10 - Pseudomonas putida - ca. 7,125 mg/l - 18 h
(DIN 38412)

Persistence and degradability No information available
Bioaccumulative potential No information available
Mobility in soil No information available
Results of PBT and vPvB assessment No information available
Other adverse effects No information available
Additional information No information available

13. DISPOSAL CONSIDERATIONS

Contact with acids or bleach liberates toxic gases. DO NOT ADD acids or bleach to any liquid wastes containing this product.

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT (US), TDG Not dangerous goods during transportation
UN number None
UN proper shipping name None
Transport hazard class None
Packing group None
Environmental hazards None
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code None
Special precaution for user None

15. REGULATION INFORMATION

US Federal Regulations
US Toxic Substances Control Act (TSCA): Guanidine hydrochloride
SARA 302: No chemicals were found.
SARA 313: No chemicals were found.
SARA 311/312 Hazards: Acute Health Hazard, Chronic Health Hazard

WHMIS Hazard Class None

16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3

Prepared by: Regulatory Department
Biotium Inc.

Version no. 4

Revision date (Initials) 7/6/23 (ET)

Reason for revision Update to section 3 to indicate exact concentration is withheld as a trade secret.

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not

required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

SAFETY DATA SHEET

Date: April 18, 2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CELLDATA Wash Buffer
Catalog Number: 99864
Unit Size: 12 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification None
Signal word None
Health hazards None
Physical hazards None
Hazard statements None
Precautionary statements None
GHS hazard pictogram None

WHMIS classification None

NFPA Rating
Health hazard: 0
Fire: 0
Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP] None
Labeling according to Regulation (EC) No 1272/2008[CLP]
Hazard pictogram None
Signal word None
Hazard statements None
Precautionary statements None

3. COMPOSITION/INFORMATION ON INGREDIENTS

No components present at concentrations classified as hazardous to health or the environment.

4. FIRST-AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapor or mist.

Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Store at room temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

None

Personal protective equipment

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	CELLDATA Wash Buffer
Appearance	Liquid
Odor	Odorless
Odor threshold	No data available
pH	7-8
Melting point/freezing point	No data available

Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	No data available
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

No data available

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50 None

Inhalation LC50 None

Dermal LD50 None

Other information on acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

RTECS: None

12. ECOLOGICAL INFORMATION

Toxicity	No information available
Persistence and degradability	No information available
Bioaccumulative potential	No information available
Mobility in soil	No information available
Results of PBT and vPvB assessment	No information available
Other adverse effects	No information available
Additional information	No information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT (US), TDG	Not dangerous goods during transportation	
UN number	None	
UN proper shipping name	None	
Transport hazard class	None	
Packing group	None	
Environmental hazards	None	
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	None	
Special precaution for user	None	

15. REGULATION INFORMATION**US Federal Regulations**

US Toxic Substances Control Act (TSCA): Not listed

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312 Hazards: No chemicals were found.

WHMIS Hazard Class None

16. OTHER INFORMATIONClassification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3Prepared by: Regulatory Department
Biotium Inc.

Version no. 3

Revision date (Initials) 4/18/22 (ET)

Reason for revision Updates to component name and catalog numbers. Update to current SDS template.

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

SAFETY DATA SHEET

Date: July 6, 2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: DNAstorm™ FFPE CAT5™ Lysis Buffer
Catalog Number: 99869-12ML, 99869-25ML
Unit Size: 12 mL, 25 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification None
Signal word None
Health hazards None
Physical hazards None
Hazard statements None
Precautionary statements None
GHS hazard pictogram None

WHMIS classification

Sodium dodecyl sulfate:

Combustible dusts

Acute toxicity - oral - Category 4

Skin corrosion / irritation - Category 2

Serious eye damage / eye irritation - Category 2A

Hazard statements

H302 – Harmful if swallowed

H315 – Causes skin irritation

H319 – Causes serious eye irritation

Precautionary statements

P264 - Wash hands thoroughly after handling.

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

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

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

P330 - Rinse mouth.

P362 - Take off contaminated clothing and wash before reuse.

P501 - Dispose of contents/container to approved waste disposal facility.

P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

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

P332+P313 - IF SKIN irritation occurs: Get medical advice/attention

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.

Hazard pictogram

**NFPA Rating**

Sodium dodecyl sulfate
Health hazard: 0
Fire: 0
Reactivity Hazard: 0

Glycerol:

Health hazard: 1
Fire: 1
Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP] None

Labeling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram None

Signal word None

Hazard statements None

Precautionary statements None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Sodium dodecyl sulfate	151-21-3	205-788-1	1-5%*	WHMIS Classification Combustible dusts Acute toxicity - oral - Category 4 Skin corrosion / irritation - Category 2 Serious eye damage / eye irritation - Category 2A
Glycerol	56-81-5	200-289-5	1-5%*	N/A

*Exact concentration withheld as trade secret.

4. FIRST-AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapor or mist.

Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Store at room temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Substance: Glycerol

CAS no. 56-81-5

Country	Australia	Austria	Belgium	Canada - Ontario	Canada - Québec	Finland	France
Limit value, 8hours	10 (1) mg/m ³		10 mg/m ³	10 mg/m ³	10 mg/m ³	20 mg/m ³	10 mg/m ³
Limit value, short term							

Country	Germany (AGS)	Germany (DFG)	Ireland	New Zealand	Poland	Singapore	South Korea
Limit value, 8hours	200 (1) mg/m ³	200 (1) mg/m ³	10 mg/m ³	10 (1) mg/m ³	10 mg/m ³	10 mg/m ³	10 mg/m ³
Limit value, short term	400 (1)(2) mg/m ³	400 (1)(2) mg/m ³					

Country	Spain	Switzerland	United Kingdom	USA-OSHA
Limit value, 8hours	10 mg/m ³	50 inhalable aerosol	10 mg/m ³	15 inhalable dust 5 respirable dust
Limit value, short term		100 inhalable aerosol		

Australia (1) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.

Germany (AGS) (1) Inhalable fraction (2) 15 minutes average value.

Germany (DFG) (1) Inhalable fraction (2) 15 minutes average value.

New Zealand (1) The value for inhalable dust containing no asbestos and less than 1% free silica.

Personal protective equipment

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	RNAstorm™ FFPE Lysis Buffer
Appearance	Liquid
Odor	Odorless
Odor threshold	No data available
pH	6.4-7.4
Melting point/freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Water soluble
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

No data available

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION**Sodium dodecyl sulfate****Acute toxicity****Oral LD50**

LD50 Oral - Rat - female - 977 mg/kg
(OECD Test Guideline 401)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate Inhalation - 4 h - 1.51 mg/l - dust/mist
Inhalation LC50 LC50 Inhalation Rat: > 3,900 mg/m³/1H
Dermal LD50 LD50 Dermal - Rabbit - > 2,000 mg/kg
(OECD Test Guideline 404)

Other information on acute toxicity No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irreversible effects on the eye

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test

Result: negative

Remarks: (IUCLID)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test):

Test system: Mouse lymphoma test

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

RTECS: None

Glycerol

Acute toxicity

Oral LD50 LD50 Oral - Rat – 12600 mg/kg
LD50 Oral – Mice – 4090 mg/kg
TDlo Oral – Human – 1428 mg/kg

Inhalation LC50	None
Dermal LD50	None
Other information on acute toxicity	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

RTECS: MA8050000

12. ECOLOGICAL INFORMATION

Sodium dodecyl sulfate**Toxicity**

Toxicity to Fish: Flow-through test LC50 - Pimephales promelas (fathead minnow) - 29 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates: flow-through test EC50 - Daphnia dubia (Water flea) - 5.55 mg/l - 48 h Remarks: (ECHA); flow-through test NOEC - Ceriodaphnia dubia (water flea) - 0.88 mg/l - 7 d (US-EPA)

Toxicity to algae: ErC50 - Desmodesmus subspicatus (green algae) - > 120 mg/l - 72h (DIN 38412)

Toxicity to bacteria: EC50 - activated sludge - 130 mg/l - 3 h (OECD Test Guideline 209)

Persistence and degradability	aerobic - Exposure time 28 d Result: 95 % - Readily biodegradable. (OECD Test Guideline 301B)
Bioaccumulative potential	Cyprinus carpio (Carp) - 72 h (Sodium dodecyl sulphate) Bioconcentration factor (BCF): 3.9 - 5.3

Mobility in soil No information available

Results of PBT and vPvB assessment No information available

Other adverse effects No information available

Additional information No information available

Glycerol

Toxicity

Toxicity threshold (cell multiplication inhibition test) Algae (*Microcystis aeruginosa*) 2900 mg/l
Toxicity threshold (cell multiplication inhibition test) Protozoa (*Entosiphon sulcatum*) 3200 mg/l
LC50; Species: Goldfish; Concentration: >5000 mg/L for 24 hr - modified ASTM D 1345
LC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20-22 °C;
Concentration: >10000 mg/L for 24 hr /formulated product/

Persistence and degradability aerobic - Exposure time 2 d
Result: 90 % - Readily biodegradable.
Remarks: (ECHA)

Bioaccumulative potential No information available

Mobility in soil No information available

Results of PBT and vPvB assessment No information available

Other adverse effects No information available

Additional information No information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT (US), TDG Not dangerous goods during transportation
UN number None
UN proper shipping name None
Transport hazard class None
Packing group None
Environmental hazards None
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code N/A
Special precaution for user None

15. REGULATION INFORMATION**US Federal Regulations**

US Toxic Substances Control Act (TSCA): Sodium dodecyl sulfate: listed
Glycerol: listed

SARA 302: No chemicals were found.
SARA 313: No chemicals were found.
SARA 311/312 Hazards: No chemicals were found.

WHMIS Hazard Class

Sodium dodecyl sulfate:
Combustible dusts
Acute toxicity - oral - Category 4
Skin corrosion / irritation - Category 2
Serious eye damage / eye irritation - Category 2A

16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3

Prepared by: Regulatory Department
Biotium Inc.

Version no. 4

Revision date (Initials) 7/6/23 (ET)

Reason for revision Update to section 3 to indicate exact concentration is withheld as a trade secret.

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

SAFETY DATA SHEET

Date: July 6, 2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: DNAstorm™ FFPE Proteinase K
Catalog Number: 99870
Unit Size: 1.2 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification**Alkaline protease**

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Signal word Danger**Health hazards** None**Physical hazards** None**Hazard statements**

H317 – May cause an allergic reaction

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

Precautionary statements

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

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P285 - In case of inadequate ventilation wear respiratory protection.

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

P363 - Wash contaminated clothing before reuse.

P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P333+P313 - IF SKIN irritation or rash occurs: Get medical advice/attention.

P342+P311 - IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

P501 - Dispose of contents/container to approved waste disposal facility.

GHS hazard pictogram**WHMIS classification** None**NFPA Rating****Alkaline protease**

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

Glycerol

Health hazard: 1

Fire: 1
Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP] None
Labeling according to Regulation (EC) No 1272/2008[CLP]
Hazard pictogram
Signal word None
Hazard statements None
Precautionary statements None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Alkaline protease	39450-01-6	254-457-8	1-10%*	GHS Classifications Respiratory sensitization : Category 1 Skin sensitization : Category 1
Glycerol	56-81-5	200-289-5	20%	N/A

*Exact concentration withheld as trade secret.

4. FIRST-AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid inhalation of vapor or mist.
Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.
Store at 4°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Substance: Glycerol

CAS no. 56-81-5

Country	Australia	Austria	Belgium	Canada - Ontario	Canada - Québec	Finland	France
Limit value, 8hours	10 (1) mg/m3		10 mg/m3	10 mg/m3	10 mg/m3	20 mg/m3	10 mg/m3
Limit value, short term							

Country	Germany (AGS)	Germany (DFG)	Ireland	New Zealand	Poland	Singapore	South Korea
Limit value, 8hours	200 (1) mg/m3	200 (1) mg/m3	10 mg/m3	10 (1) mg/m3	10 mg/m3	10 mg/m3	10 mg/m3
Limit value, short term	400 (1)(2) mg/m3	400 (1)(2) mg/m3					

Country	Spain	Switzerland	United Kingdom	USA-OSHA
Limit value, 8hours	10 mg/m3	50 inhalable aerosol	10 mg/m3	15 inhalable dust 5 respirable dust
Limit value, short term		100 inhalable aerosol		

Australia (1) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.

Germany (AGS) (1) Inhalable fraction (2) 15 minutes average value.

Germany6 (DDFG) (1) Inhalable fraction (2) 15 minutes average value.

New Zealand (1) The value for inhalable dust containing no asbestos and less than 1% free silica.

Personal protective equipment

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	DNAstorm™ FFPE Proteinase K
Appearance	Liquid
Odor	Odorless
Odor threshold	No data available
pH	No data available

Melting point/freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in water
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

No data available

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Glycerol

Oral LD50 LD50 Oral - Rat – 12600 mg/kg
LD50 Oral – Mice – 4090 mg/kg
TDLo Oral – Human – 1428 mg/kg

Inhalation LC50 None

Dermal LD50 None

Other information on acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

Glycerol

RTECS: MA8050000

12. ECOLOGICAL INFORMATION**Toxicity**

Glycerol

Toxicity threshold (cell multiplication inhibition test) Algae (*Microcystis aeruginosa*) 2900 mg/lToxicity threshold (cell multiplication inhibition test) Protozoa (*Entosiphon sulcatum*) 3200 mg/l

LC50; Species: Goldfish; Concentration: >5000 mg/L for 24 hr - modified ASTM D 1345

LC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20-22 °C;

Concentration: >10000 mg/L for 24 hr /formulated product/

Persistence and degradability

Glycerol

aerobic - Exposure time 2 d

Result: 90 % - Readily biodegradable.

Remarks: (ECHA)

Bioaccumulative potential

No information available

Mobility in soil

No information available

Results of PBT and vPvB assessment

No information available

Other adverse effects

No information available

Additional information

No information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION**IATA, IMDG, DOT (US), TDG**

Not dangerous goods during transportation

UN number None**UN proper shipping name** None**Transport hazard class** None**Packing group** None**Environmental hazards** None**Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code**

None

Special precaution for user

None

15. REGULATION INFORMATION**US Federal Regulations**

US Toxic Substances Control Act (TSCA): Glycerol: listed

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312 Hazards: No chemicals were found.

WHMIS Hazard Class None

16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3

Prepared by: Regulatory Department
 Biotium Inc.

Version no. 4

Revision date (Initials) 7/6/23 (ET)

Reason for revision Update to section 3 to indicate exact concentration is withheld as a trade secret.

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

SAFETY DATA SHEET

Date: April 21, 2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RNase A
Catalog Number: 99871-600UL, 99871-1200UL
Unit Size: 600 uL 1.2 mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

2. HAZARDS IDENTIFICATION

GHS Classification None
Signal word None
Health hazards None
Physical hazards None
Hazard statements None
Precautionary statements None
GHS hazard pictogram None

WHMIS classification None

NFPA Rating

Health hazard: 1

Fire: 1

Reactivity Hazard: 0

Classification according to Regulation (EC) No 1272/2008[CLP] None

Labeling according to Regulation (EC) No 1272/2008[CLP]

Hazard pictogram None

Signal word None

Hazard statements None

Precautionary statements None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Glycerol	56-81-5	200-289-5	20%	N/A

4. FIRST-AID MEASURES

General advice

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid inhalation of vapor or mist.

Avoid direct contact with substance.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Store at 4°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

None

Personal protective equipment**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	RNase A
Appearance	Liquid
Odor	Odorless

Odor threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Soluble in water
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

No data available

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50 LD50 Oral - Rat – 12600 mg/kg
LD50 Oral – Mice – 4090 mg/kg
TDLo Oral – Human – 1428 mg/kg

Inhalation LC50 None

Dermal LD50 None

Other information on acute toxicity No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitization No data available

Germ cell mutagenicity No data available

Carcinogenicity

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

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

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

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

Reproductive toxicity No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Additional Information

RTECS: MA8050000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity threshold (cell multiplication inhibition test) Algae (*Microcystis aeruginosa*) 2900 mg/l

Toxicity threshold (cell multiplication inhibition test) Protozoa (*Entosiphon sulcatum*) 3200 mg/l

LC50; Species: Goldfish; Concentration: >5000 mg/L for 24 hr - modified ASTM D 1345

LC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20-22 °C;

Concentration: >10000 mg/L for 24 hr /formulated product/

Persistence and degradability aerobic - Exposure time 2 d
Result: 90 % - Readily biodegradable.
Remarks: (ECHA)

Bioaccumulative potential No information available

Mobility in soil No information available

Results of PBT and vPvB assessment No information available

Other adverse effects No information available

Additional information No information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT (US), TDG Not dangerous goods during transportation

UN number None

UN proper shipping name None

Transport hazard class None

Packing group None

Environmental hazards None

Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code None

Special precaution for user None

15. REGULATION INFORMATION

US Federal Regulations

US Toxic Substances Control Act (TSCA): Glycerol: listed

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312 Hazards: No chemicals were found.

WHMIS Hazard Class None

16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008
Refer to section 2 and section 3

Prepared by: Regulatory Department
Biotium Inc.

Version no. 3

Revision date (Initials) 4/21/22 (ET)

Reason for revision Addition of glycerol and updates to classification and labeling in section 2 and 3.
Updates to toxicological and ecological information in sections 11 and 12.
Updates to component name and catalog numbers. Update to current SDS template.

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.