

SAFETY DATA SHEET

Date: December 13, 2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: EMBER500 RNA Prestain Loading Dye
Catalog Number: 41032-250uL, 41032-1mL
Unit Size: 250 uL, 1 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** Repr. 1B**Physical hazards** None**Hazard statements** H360D *** May damage the unborn child**Precautionary statements**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P281 Use personal protective equipment as required.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

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

WHMIS classification Flammable liquids - Category 4 (DMSO)**GHS hazard pictogram****NFPA Rating** (Formamide)

Health hazard: 1

Fire: 1

Reactivity Hazard: 0

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

Repr. 1B

Labeling according to Regulation (EC) No 1272/2008[CLP]**Hazard pictogram****Signal word** Danger**Hazard statements** H360D *** May damage the unborn child**Precautionary statements**

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Formamide	75-12-7	200-842-0	95%	Repr. 1B
Dimethylsulfoxide (DMSO)	67-68-5	200-664-3	0.2%	Flammable liquids - Category 4

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 -20°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Substance: Formamide

CAS no. 75-12-7

Country	Australia	Austria	Belgium	Canada (Québec)	Canada (Ontario)	Denmark	Finland
Limit value, 8hours	10 ppm 18 mg/m ³	9 ppm 16 mg/m ³	10 (1) ppm 18 (1) mg/m ³	10 (1) ppm 18 (1) mg/m ³	10 ppm	10 (1) ppm 18 (1) mg/m ³	10 ppm 19 mg/m ³
Limit value, short term	--	18 ppm 32 mg/m ³	--	--	--	20 (1,2) ppm 36 (1,2) mg/m ³	20 (1) ppm 37 (1) mg/m ³

Country	France	Ireland	New	Norway	Poland	Romania	Singapore
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			Zealand				
Limit value, 8hours	20 ppm 30 mg/m ³	10 ppm 18 mg/m ³	10 ppm 18 mg/m ³	10 (1) ppm 18 (1) mg/m ³	23 mg/m ³	11 ppm 20 mg/m ³	10 ppm 18 mg/m ³
Limit value, short term	--	--	--	--	--	16 (1) ppm 30 (1) mg/m ³	--

Country	South Korea	Spain	Sweden	Switzerland	United Kingdom	USA-NIOSH	USA-OSHA
Limit value, 8hours	10 ppm 15 mg/m ³	10 ppm 19 mg/m ³	10 ppm 20 mg/m ³	10 ppm 18 mg/m ³	20 ppm 37 mg/m ³	10 ppm 15 mg/m ³	--
Limit value, short term	--	--	--	15 (1) ppm 30 (1) mg/m ³	30 ppm 56 mg/m ³	--	--

Belgium (1) Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.

Canada - Québec (1) Skin

Denmark (1) Skin (2) 15 minutes average value

Finland (1) 15 minutes average value

Norway (1) Skin

Romania (1) 15 minutes average value

Spain skin

Sweden (1) 15 minutes average value

USA-NIOSH skin notation

Substance: Dimethylsulfoxide (DMSO)

CAS no. 67-68-5

Country	Austria	Denmark	Finland	Germany (AGS)	Germany (DFG)	Sweden	Switzerland
Limit value, 8hours	50 ppm 160 mg/m ³	50 ppm 160 mg/m ³	50 ppm	50 ppm (1) 160 mg/m ³ (1)	50 ppm (1) 160 mg/m ³ (1)	50 ppm 150 mg/m ³	50 ppm 160 mg/m ³
Limit value, short term	--	100 ppm 320 mg/m ³	--	100 ppm (1,2) 320 mg/m ³ (1,2)	100 ppm (1,2) 320 mg/m ³ (1,2)	150 ppm (1) 500 mg/m ³ (1)	100 ppm 320 mg/m ³

Germany (AGS) (1) Skin (2) 15 minutes average value

Germany (DFG) (1) Skin (2) 15 minutes average value

Sweden (1) 15 minutes average value

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	EMBER500 RNA Prestain Loading Dye
Appearance	Blue Solution
Odor	No data available
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	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 5577 mg/kg (rat) (formamide)

Inhalation LC50 >3900 ppm/6H (rat) (formamide)

Dermal LD50 17 gm/kg (rabbit) (formamide)

Other information on acute toxicity No data available

Skin corrosion/irritation Irritating to skin, mucous membranes (formamide)

Serious eye damage/eye irritation Serious eye irritation (rabbit) (formamide)

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 Classified as reproductive hazard (formamide)

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: LQ0525000 (Formamide); PV6210000 (DMSO)

12. ECOLOGICAL INFORMATION

Toxicity

Formamide: EC50: >500mg/L (96h, Desmodosmus subspicatus) EC50: >500mg/L (72h, Desmodosmus subspicatus) LC50: 4600 - 9300mg/L (96h, Leuciscus idus) LC50: =9135mg/L (96h, Brachydanio rerio); EC50: >500mg/L (48h, Daphnia magna)

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): Formamide

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312: No chemicals were found

WHMIS Hazard Class Flammable liquids - Category 4 (DMSO)

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. 1

Revision date (Initials)

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.