

SAFETY DATA SHEET

Date: July 21, 2022

1. PRODUCT AND COMPANY IDENTIFICATION

Catalog Number	Unit Size	Product Name
23017	10 mL	EverBrite TrueBlack® Hardset Mounting Medium
23017-T	2 mL	EverBrite TrueBlack® Hardset Mounting Medium
23018	10 mL	EverBrite TrueBlack® Hardset Mounting Medium with DAPI
23018-T	2 mL	EverBrite TrueBlack® Hardset Mounting Medium with DAPI
23019	10 mL	EverBrite TrueBlack® Hardset Mounting Medium with NucSpot® 640
23019-T	2 mL	EverBrite TrueBlack® Hardset Mounting Medium with NucSpot® 640

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

Dimethylformamide, DMF**GHS Classification**

Signal word Danger
Health hazards Acute Tox. 4, Eye Irrit. 2, Repr. 1B
Physical hazards None
Hazard statements H312: Harmful in contact with skin,
H319: Causes serious eye irritation
H332: Harmful if inhaled
H360D: May damage the unborn child.

GHS hazard pictogram

WHMIS classification Dimethylformamide: Class 3 Flammable Liquids, Acute Toxicity 4, Carcinogenicity 1B, Serious eye damage 2A, Specific target organ toxicity Cat 1, Rep tox 1B

NFPA Rating

Health hazard: 2
Fire: 2
Reactivity Hazard: 0

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

Acute Tox. 4, Eye Irrit. 2, Repr. 1B

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

Signal word Danger

Hazard statements

H312: Harmful in contact with skin,
H319: Causes serious eye irritation
H332: Harmful if inhaled
H360D: May damage the unborn child.

Precautionary statements

P203 - Obtain, read and follow all safety instructions before use.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264+P265 - Wash hands thoroughly after handling. Do not touch eyes.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Remove contact lenses, if present and easy to do. Rinse cautiously with water for several minutes.
P317 - IF SWALLOWED: Get emergency medical help.
P337+P317 - If eye irritation persists: Get emergency medical help.
P362+P364 - IF ON CLOTHING: Take off contaminated clothing.
P405 - Store locked up.
P501 - Dispose of contents/container to approved waste disposal facility.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classifications
Dimethylformamide, DMF	68-12-2	200-679-5	1.4%	GHS Acute Tox. 4, Eye Irrit. 2, Repr. 1B (EC) No 1272/2008[CLP] Acute Tox. 4, Eye Irrit. 2, Repr. 1B WHMIS Flam Liq. 3, Acute Tox. 4, Eye Irrit. 2A, Carc. 1B, Rep Tox. 1B, Specific target organ tox. 1B
Dimethyl sulfoxide. DMSO	67-68-5	200-664-3	3%	-
Glycerol	56-81-5	200-289-5	≤50%	-

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: Dimethylformamide

CAS no. 68-12-2

Country	Australia	Austria	Belgium	Canada Ontario	Canada Quebec	Denmark	European Union	Finland
Limit value, 8hours	30 mg/m ³	15 mg/m ³	15 mg/m ³ (1)	10 ppm(1)	10 ppm(1)	15 mg/m ³ (1)	15 mg/m ³ (1)	15 mg/m ³
Limit value, short term		30 mg/m ³	30 mg/m ³ (1)(2)			30 mg/m ³ (1)(2)	30 mg/m ³ (1)(2)	30 mg/m ³ (2)

Country	France	Germany (AGS)	Germany (DFG)	Hungary	Ireland	Italy	Japan (MHLW)	Japan (JSHO)
Limit value, 8hours	15 mg/m ³	15 mg/m ³ (1)	15 mg/m ³ (1)	15 mg/m ³ (1)	15 mg/m ³	15 mg/m ³ (1)	10 mg/m ³	10 mg/m ³
Limit value, short term	30 mg/m ³ (1)	30 mg/m ³ (1)(2)	30 mg/m ³ (1)(2)	30 mg/m ³ (1)(2)	30 mg/m ³ (3)	30 mg/m ³ (1)(2)		30 mg/m ³

Country	Latvia	New Zealand	Norway	People's Republic of China	Poland	Romania	Singapore	South Africa
Limit value, 8hours	15 mg/m ³	5 ppm	15 mg/m ³ (1)	20 mg/m ³	15 mg/m ³	15 mg/m ³	30 mg/m ³	20 ppm(1)
Limit value, short term	30 mg/m ³ (2)		30 mg/m ³ (1)(2)		30 mg/m ³	30 mg/m ³ (2)		

Country	South Africa (mining)	South Korea	Spain	Sweden	Switzerland	Netherlands	Turkey
Limit value, 8hours	30 mg/m ³ (1)	10 ppm(1)	15 mg/m ³	15 mg/m ³	15 mg/m ³	15 mg/m ³ (1)	15 mg/m ³
Limit value, short term	60 mg/m ³ (1)(2)		30 mg/m ³	30 mg/m ³ (2)	30 mg/m ³	30 mg/m ³ (1)(2)	30 mg/m ³ (1)

Country	United Kingdom	USA-NIOSH	USA-OSHA
Limit value, 8hours	15 mg/m ³	30 mg/m ³ (1)	30 mg/m ³ (1)

Limit value, short term	30 mg/m ³ (2)		
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Remarks

- (1) Skin
- (2) 15 minutes average value
- European Union -Binding Occupational Exposure Limit Value for all exposure values listed (BOELV)
- (3) 15 minutes reference period
- Belgium 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.

Substance: Dimethylsulfoxide
 CAS no. 67-68-5

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

Substance: Glycerol (mist)
 CAS no. 56-81-5

Country	Australia	Belgium	Canada Ontario	Canada Quebec	Finland	France	Germany (AGS)	Germany (DFG)
Limit value, 8hours	10 mg/m ³	10 mg/m ³	10 mg/m ³	10 mg/m ³	20 mg/m ³	10 mg/m ³	200 mg/m ³ (1)	200 mg/m ³ (1)
Limit value, short term							400 mg/m ³ (1)(2)	400 mg/m ³ (1)(2)

Country	Ireland	New Zealand	Poland	Singapore	South Africa mining	South Korea	Spain
Limit value, 8hours	10 mg/m ³	10 mg/m ³ (1)	10 mg/m ³	10 mg/m ³	10 ppm	10 mg/m ³	10 mg/m ³
Limit value, short term							

Country	Switzerland	USA -OSHA	United Kingdom
Limit value, 8hours	50 mg/m ³	15 mg/m ³ (1) 5 mg/m ³ (2)	10 mg/m ³
Limit value, short term	100 mg/m ³		

Remarks

- 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.
- USA - OSHA (1) Inhalable fraction (2) Respirable fraction

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	EverBrite TrueBlack® Hardset Mounting Medium
Appearance	Dark liquid
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 DMSO

Oral LD50

Rat - 14,500 mg/kg (DMSO)

Mouse- 2,900 mg/kg (DMF)

Inhalation LC50

Rat - 4 h - 40250 ppm (DMSO)

Mouse -9,400 mg/m³/2hr (DMF)

Dermal LD50

Rat - 4g/kg (DMSO)

Rabbit - 4,720 mg/kg (DMF)

Other information on acute toxicity

No data available

Skin corrosion/irritation – RabbitResult: Mild skin irritation-24 h (Glycerol); Human Dermatotoxin (DMF)

Serious eye damage/eye irritation	Eyes – Rabbit Result: Mild eye irritation - 24 h (Glycerol) Rabbit and Human -eye irritation – 24 h (DMF)
Respiratory or skin sensitization	No data available (DMSO); No sensitization observed in guinea pigs (DMF)
Germ cell mutagenicity	Salmonella typhimurium assay (Ames test): negative (+/- activation), DMSO is used as a neutral solvent in the Ames mutagen test Cytogenetic analysis in humans, 12,300 ug/m ³ /1y (DMF) ; Salmonella typhimurium assay (Ames <u>test</u>): <u>4250 ug/kg</u>
Carcinogenicity	IARC: Group 2A: Probably carcinogenic to humans (DMF) ACGIH: Carcinogen - Confirmed Animal (DMF) 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: TLV-A3 Confirmed animal carcinogen with unknown relevance to humans (DMF)
Reproductive toxicity	Not considered to be directly embryotoxic and has been shown to be a successful cryoprotectant for mammalian semen and embryos (DMSO) Reproductive toxicity, may damage the unborn child. In mice, fertility & fecundity were reduced and offspring malformations were observed after exposure to 4,000 & 7,000 ppm using the RACB Protocol.
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 (DMSO); Aspiration hazard: Abdominal pain. Jaundice (DMF)
Potential health effects	
Inhalation	May be harmful if inhaled. May cause respiratory tract irritation (DMSO, DMF).
Ingestion	May be harmful if swallowed (DMSO, DMF).
Skin	May be harmful if absorbed through skin. May cause skin irritation (DMSO, DMF).
Eyes	May cause eye irritation (DMSO, DMF).
Additional Information	RTECS: LQ2100000 (DMF); PV6210000 (DMSO); MA8050000 (Glycerol)

12. ECOLOGICAL INFORMATION

Toxicity

DMF: Ecotoxicity in water (LC50): 7100 ppm 96 hours (Trout)
DMSO: The LC50(96hrs) for ten species of fish range from 32500 to 43000ppm
Glycerol :Ecotoxicity in water (LC50): 58.5 ppm 96 hours (Trout)

Persistence and degradability DMSO: biodegradation: 90% (28d)
DMF: biodegradation: 4.4% (14d)

Bioaccumulative potential No information available

Mobility in soil DMF expected to have very high mobility based upon an estimated Koc of 1.

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 2265
UN proper shipping name N,N-Dimethyl formamide
Transport hazard class 3
Packing group III
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): Dimethylformamide (DMF) 68-12-2, DMSO 67-68-5, Glycerol 56-81-5

SARA 302: Dimethylformamide, CAS 68-12-2

SARA 313: Dimethylformamide, CAS 68-12-2

SARA 311/312 Hazards: Dimethylformamide, CAS 68-12-2

WHMIS Hazard Class: Dimethylformamide: Class 3 Flammable Liquids, Acute Toxicity 4, Carcinogenicity 1B, Serious eye damage 2A, Specific target organ toxicity Cat 1

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) 7/21/22 (JK)

Reason for revision Addition of Dimethylformamide and related safety information. Removal of product 23022. Update to latest SOP and template.

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