

## SAFETY DATA SHEET

Date : February 16, 2017

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** DNAzure Blue Nucleic Acid Gel Stain, 100X  
**Catalog Number:** 41020/41020-F  
**Unit Size:** 10mL/1mL  
**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>

### 2. HAZARDS IDENTIFICATION

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

Dimethyl formamide: Repr. Cat. 2; R61 Xn; R20/21 Xi; R36

**Classification according to Directive 1999/45/EC**

Dimethyl formamide: Repr. Cat. 2; R61 Xn; R20/21 Xi; R36

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

Dimethyl formamide: T R: 61-20/21-36 S: 53-45

**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** P280 Wear protective gloves/protective clothing/eye protection/face protection, P302+P352 IF ON SKIN: wash with plenty of soap and water, P312 Call a POISON CENTER or doctor/physician if you feel unwell, P363 Wash contaminated clothing before reuse, P501 Dispose of contents/container to hazardous chemical waste, P264 Wash hands thoroughly after handling, 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, 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.**HMIS Classification**

Health hazard: 2

Flammability: 2

Physical hazards: 0

**NFPA Rating**

Health hazard: 2

Fire: 2

Reactivity Hazard: 0

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Index No.	Weight %	Classification according to 67/548/EEC	Classification according to regulation (EC)No1278/2008
Dimethyl formamide	68-12-2	200-679-5	616-001-00-X	<20%	Acute Tox. 4 Eye Irrit. 2 Repr. 1B	Repr. Cat. 2; R61 Xn; R20/21 Xi; R36
DMSO	67-68-5	200-664-3	-	<80%	--	--
Dye	--	--	--	<1%	--	--

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### 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.

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### 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.

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### 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: Dimethyl formamide

CAS no. 68-12-2

country	Austria	Belgium	Denmark	European Union	France	Germany
Limit value, 8hours	5 ppm 15 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>
Limit value, short term	10 ppm 30 mg/m <sup>3</sup>	--	20 ppm 60 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>

country	Hungary	Italy	Poland	Spain	Sweden	Netherlands	Switzerland
Limit value, 8hours	30 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>	5 ppm 15 mg/m <sup>3</sup>
Limit value, short term	120 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	15 ppm 45 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>

country	United Kingdom	USA-NIOSH	USA-OSHA	Australia	Canada	Japan	South Korea
Limit value, 8hours	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm 30 mg/m <sup>3</sup>	10 ppm	10 ppm 30 mg/m <sup>3</sup>
Limit value, short term	20 ppm 61 mg/m <sup>3</sup>	--	--	--	--	--	--

Substance Dimethylsulfoxide

CAS no. 67-68-5

country	Austria	Belgium	Denmark	European Union	France	Germany
Limit value, 8hours	160mg/m <sup>3</sup>	-	160mg/m <sup>3</sup>	-	-	160mg/m <sup>3</sup>
Limit value, short term	-	-	320mg/m <sup>3</sup>	-	-	320mg/m <sup>3</sup>

country	Hungary	Italy	Poland	Spain	Sweden	Netherlands	United Kingdom
Limit value, 8hours	-	-	-	-	160mg/m <sup>3</sup>	-	-
Limit value, short term	-	-	-	-	500mg/m <sup>3</sup>	-	-

country	United Kingdom	USA-NIOSH	USA-OSHA	Australia	Canada	Japan	South Korea
Limit	-	-	-	-	-	-	-

value,8hours							
Limit value, short term	-	-	-	-	-	-	-

**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.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Chemical Name	DNAzure Blue Nucleic Acid Gel Stain, 100X
Appearance	Light yellow 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	Soluble in ethanol
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

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**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

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## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity: Dimethyl formamide**

**Oral LD50** Rat-2,800 mg/kg

**Inhalation LC50** Rat-4h-9-15 mg/l

**Dermal LD50** Rabbit-1,500 mg/kg

**Other information on acute toxicity** no data available

**Acute toxicity DMSO**

**Oral LD50** rat - 14,500 mg/kg

**Inhalation LC50** Inhalation - rat - 4 h - 40250 ppm

**Dermal LD50** rabbit - > 5,000 mg/kg

**Skin corrosion/irritation Dimethyl formamide**

Skin-Human

Result: Mild skin irritation – 24 h

**Serious eye damage/eye irritation Dimethyl formamide**

Eyes – Rabbit

Result: Moderate eye irritation

**Respiratory or skin sensitization** no data available

**Germ cell mutagenicity Dimethyl formamide**

Mouse

Lymphocyte

Mutation in mammalian somatic cells

**Germ cell mutagenicity DMSO** Salmonella typhimurium assay (Ames test): negative (+/- activation),  
DMSO is used as a neutral solvent in the Ames mutagen test

**Carcinogenicity**

IARC: 3- Group 3: Not classifiable as to its carcinogenicity to humans (N,N-Dimthylformamide)

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**

May cause congenital malformation in the fetus

**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: LQ2100000

Warning: intolerance for alcohol can occur up to 4 days after dimethylformamide exposure. N,N-dimethylformamide is considered to be a potent liver toxin., Vomiting, Diarrhoea, Abdominal pain, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS: PV6210000 (DMSO)

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## 1. ECOLOGICAL INFORMATION

### Dimethylformamide

#### Toxicity

Toxicity to fish    LC50 – Oncorhynchus mykiss (rainbow trout) – 9,000 – 13,000 mg/l – 96 h  
                          LC50 – Lepomis macrochirus (Bluegill) – 6,700 – 7,500 mg/l – 96 h  
                          LC50 - Pimephales promelas (fathead minnow) - 10,400 - 10,800 mg/l - 96 h  
                          LC50 - Oncorhynchus mykiss (rainbow trout) - 9,800 mg/l - 96 h  
                          LC50 - Lepomis macrochirus (Bluegill) - 6,300 mg/l - 96 h  
                          LC50 - Pimephales promelas (fathead minnow) - 10,600 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 9,600 - 13,100 mg/l - 48 h

EC50 - Daphnia magna (Water flea) - 15,700 mg/l - 48 h

Toxicity to algae LC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 96 h

### DMSO

#### Toxicity

The LC50(96hrs) for ten species of fish range from 32500 to 43000ppm

**Persistence and degradability**    Result: > 90 % - Readily biodegradable

**Biodegradation**                      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

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## 2. DISPOSAL CONSIDERATIONS

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

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## 3. TRANSPORT INFORMATION

**IATA, IMDG, DOT (US)**    not dangerous good during transportation

UN number                      2265

UN proper shipping name    N,N-Dimethylformamide

Transport hazard class        3

Packing group                 III

Environmental hazards        none

Special precaution for user none

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#### 4. REGULATION INFORMATION

##### **US Federal Regulations**

Us Toxic Substances Control Act (TSCA): Not listed

SARA 302: No chemicals were found .

SARA 313: Dimethylformamide CAS No 68-12-2.

SARA 311/312 Hazards : No chemicals were found.

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#### 12. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008

Prepared by: Regulatory Department  
Biotium Inc.

Version no. 1

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.