

## SAFETY DATA SHEET

## Live-or-Dye™ Fixable Viability Staining Kits

## SECTION 1: Identification

## 1.1. Product identifier

## Trade name

Live-or-Dye™ Fixable Viability Staining Kits

## ▼ Other names / Synonyms

32002-T: Live-or-Dye™ UV/448 Fixable Viability Staining Kit, 50 assays  
32002: Live-or-Dye™ UV/448 Fixable Viability Staining Kit, 200 assays  
32003-T: Live-or-Dye™ 405/452 Fixable Viability Staining Kit, 50 assays  
32003: Live-or-Dye™ 405/452 Fixable Viability Staining Kit, 200 assays  
32004-T: Live-or-Dye™ 488/515 Fixable Viability Staining Kit, 50 assays  
32004: Live-or-Dye™ 488/515 Fixable Viability Staining Kit, 200 assays  
32005-T: Live-or-Dye™ 568/583 Fixable Viability Staining Kit, 50 assays  
32005: Live-or-Dye™ 568/583 Fixable Viability Staining Kit, 200 assays  
32006-T: Live-or-Dye™ 594/614 Fixable Viability Staining Kit, 50 assays  
32006: Live-or-Dye™ 594/614 Fixable Viability Staining Kit, 200 assays  
32007-T: Live-or-Dye™ 640/662 Fixable Viability Staining Kit, 50 assays  
32007: Live-or-Dye™ 640/662 Fixable Viability Staining Kit, 200 assays  
32008-T: Live-or-Dye™ 750/777 Fixable Viability Staining Kit, 50 assays  
32008: Live-or-Dye™ 750/777 Fixable Viability Staining Kit, 200 assays  
32009-T: Live-or-Dye™ 405/545 Fixable Viability Staining Kit, 50 assays  
32009: Live-or-Dye™ 405/545 Fixable Viability Staining Kit, 200 assays  
32011-T: Live-or-Dye™ 787/808 Fixable Viability Staining Kit, 50 assays  
32011: Live-or-Dye™ 787/808 Fixable Viability Staining Kit, 200 assays  
32012-T: Live-or-Dye™ 510/550 Fixable Viability Staining Kit, 50 assays  
32012: Live-or-Dye™ 510/550 Fixable Viability Staining Kit, 200 assays  
32013-T: Live-or-Dye™ 665/685 Fixable Viability Staining Kit, 50 assays  
32013: Live-or-Dye™ 665/685 Fixable Viability Staining Kit, 200 assays  
32014-T: Live-or-Dye™ 375/600 Fixable Viability Staining Kit, 50 assays  
32014: Live-or-Dye™ 375/600 Fixable Viability Staining Kit, 200 assays  
32015-T: Live-or-Dye™ 615/740 Fixable Viability Staining Kit, 50 assays  
32015: Live-or-Dye™ 615/740 Fixable Viability Staining Kit, 200 assays  
32018-T: Live-or-Dye™ 330/410 Fixable Viability Staining Kit, 50 assays  
32018: Live-or-Dye™ 330/410 Fixable Viability Staining Kit, 200 assays  
32021-T: Live-or-Dye™ 820/835 Fixable Viability Staining Kit, 50 assays  
32021: Live-or-Dye™ 820/835 Fixable Viability Staining Kit, 200 assays  
32022-T: Live-or-Dye™ 850/870 Fixable Viability Staining Kit, 50 assays  
32022: Live-or-Dye™ 850/870 Fixable Viability Staining Kit, 200 assays  
32023-T: Live-or-Dye™ 650/720 Fixable Viability Staining Kit, 50 assays  
32023: Live-or-Dye™ 650/720 Fixable Viability Staining Kit, 200 assays

## ▼ Product no.

32002, 32003, 32004, 32005, 32006, 32007, 32008, 32009, 32011, 32012, 32013, 32014, 32015, 32018, 32021, 32022, 32023

## 1.2. Relevant identified uses of the substance or mixture and uses advised against

## Relevant identified uses of the substance or mixture

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

## Uses advised against

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

### 1.3. Details of the supplier of the safety data sheet

#### Company and address

**Biotium, Inc.**

46117 Landing Parkway

CA 94538 Fremont

USA

T: +1 510-265-1027

Fax: +1 510-265-1352

<http://www.biotium.com>

#### E-mail

[techsupport@biotium.com](mailto:techsupport@biotium.com)

#### SDS date

9/23/2025

#### SDS Version

2.0

#### Date of previous version

6/26/2025 (1.0)

### 1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® ([triage.webpoisoncontrol.org](http://triage.webpoisoncontrol.org)) to get specific guidance for your case

See also section 4 "First aid measures".

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

See individual kit component SDS attached.

Not classified according to HCS (29 CFR 1910.1200)

### 2.2. Label elements

See individual kit component SDS attached.

#### Hazard pictogram(s)

Not applicable.

#### Signal word

Not applicable.

#### Hazard statement(s)

#### Precautionary statement(s)

##### ▼ General

Not applicable.

##### ▼ Prevention

Not applicable.

##### ▼ Response

Not applicable.

##### ▼ Storage

Not applicable.

##### ▼ Disposal

Not applicable.

### 2.3. Other hazards

See individual kit component SDS attached.

## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Not applicable. This product is a mixture.

### 3.2. Mixtures

Does not contain any substances required to report

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

#### Other information

-  
See individual kit component SDS attached.

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

##### General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

##### ▼ Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

##### ▼ Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

##### ▼ Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

##### ▼ Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

##### Burns

Not applicable.

#### 4.2. Most important symptoms and effects, both acute and delayed

None known.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### Information to medics

Bring this safety data sheet or the label from this product.

### SECTION 5: Fire-fighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

#### 5.3. Advice for firefighters

No specific requirements.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Contaminated areas may be slippery.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

### 6.3. Methods and material for containment and cleaning up

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

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

### 7.2. ▼ Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

#### Recommended storage material

No specific requirements

#### Storage conditions

Refer to section 7 of each kit component SDS (appended) for proper storage conditions for each kit component.

#### Incompatible materials

No specific requirements

### 7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No substances are listed with a permissible exposure limit (ref: 29 CFR 1910.1000 TABLE Z-1)

### 8.2. ▼ Exposure controls

Apply general control to prevent unnecessary exposure

#### General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

#### Exposure scenarios

There are no exposure scenarios implemented for this product.

#### Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

#### Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of vapours.

#### ▼ Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

#### Measures to avoid environmental exposure

No specific requirements.

### Individual protection measures, such as personal protective equipment

#### Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.

### Respiratory Equipment

Type	Class	Colour	Standards
Not required; except in case of aerosol formation.			N/A



### Skin protection

No specific requirements.

### Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
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.			



### Eye protection

Type	Standards
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).	EN166



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Liquid

#### Color

No data available

#### Odor

No data available

#### Odor threshold (ppm)

No data available

#### pH

No data available

#### Density (g/cm<sup>3</sup>)

No data available

#### Relative density

No data available

Kinematic viscosity

No data available

Particle characteristics

No data available

Phase changes

Melting point/freezing point (°F)

No data available

Softening point/range (°F)

Does not apply to liquids.

Boiling point (°F)

No data available

Vapor pressure

No data available

Relative vapor density

No data available

Decomposition temperature (°F)

No data available

Data on fire and explosion hazards

Flash point (°F)

No data available

Flammability (°F)

No data available

Auto-ignition temperature (°F)

No data available

Explosion limits (% v/v)

No data available

Solubility

Solubility in water

Soluble

n-octanol/water coefficient (LogKow)

No data available

Solubility in fat (g/L)

No data available

9.2. Other information

Evaporation rate (n-butylacetate = 100)

No data available

Other physical and chemical parameters

No data available.

Oxidizing properties

No data available

## SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

No specific requirements

## 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### ▼ Acute toxicity

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

#### ▼ Skin corrosion/irritation

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

#### ▼ Serious eye damage/irritation

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

#### ▼ Respiratory sensitisation

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

#### ▼ Skin sensitisation

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

#### ▼ Germ cell mutagenicity

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

#### ▼ Carcinogenicity

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

#### ▼ Reproductive toxicity

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

#### ▼ STOT-single exposure

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

#### ▼ STOT-repeated exposure

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

#### ▼ Aspiration hazard

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

#### Long term effects

None known.

#### Other information

None known.

## SECTION 12: Ecological information

### 12.1. ▼ Toxicity

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

### 12.2. ▼ Persistence and degradability

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

### 12.3. ▼ Bioaccumulative potential

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

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

### 12.6. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

None of the components are listed

### Specific labelling

### Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

## SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other informatio n:
DOT	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

\* Packing group

\*\* Environmental hazards

#### Additional information

Not dangerous goods according to DOT, IATA and IMDG.

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Transport in bulk according to IMO instruments

No data available.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.2. U.S. Federal regulations

##### TSCA (the non-confidential portion)

None of the components are listed

##### Clean Air Act

None of the components are listed

##### EPCRA Section 302

None of the components are listed

##### EPCRA Section 304

None of the components are listed

##### EPCRA section 313

None of the components are listed

##### CERCLA

None of the components are listed

##### Hazardous chemical inventory reporting

This product is not subject to Tier II reporting.

#### State regulations

##### California / Prop. 65

None of the components are listed

##### Massachusetts / Right To Know Act

None of the components are listed

##### New Jersey / Right To Know Act

None of the components are listed

##### New York / Right To Know Act

None of the components are listed

##### Pennsylvania / Right To Know Act

None of the components are listed

### 15.4. Restrictions for application

Restricted to professional users.

### 15.5. Demands for specific education

No specific requirements.

#### 15.6. Additional information

Not applicable.

#### 15.7. Chemical safety assessment

No

#### 15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

## SECTION 16: Other information

### The full text of identified uses as mentioned in section 1

None known.

### Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances

EPCRA = Emergency Planning and Community Right-To-Know Act

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HCIS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

NFPA = National Fire Protection Association

NIOSH = National Institute for Occupational Safety and Health

OECD = Organisation for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic

RCRA = Resource Conservation and Recovery Act

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SARA = Superfund Amendments and Reauthorization Act

SCL = A specific concentration limit.

STEL = Short-term exposure limits

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TSCA = The Toxic Substances Control Act

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

### ▼ Additional information

Not applicable.

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.

The safety data sheet is validated by

Julianne Davis

#### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: US-en

## SAFETY DATA SHEET

## Anhydrous DMSO

## SECTION 1: Identification

## 1.1. Product identifier

## Trade name

Anhydrous DMSO

## Other names / Synonyms

90082: Anhydrous DMSO, 10 mL

99938: Anhydrous DMSO, 500 uL

99953: Anhydrous DMSO, 150 uL

99953-1: Anhydrous DMSO, 250 uL

## Product no.

90082 , 99938, 99953, 99953-1

## Other means of identification

CAS No.: 67-68-5

## 1.2. Relevant identified uses of the substance or mixture and uses advised against

## Relevant identified uses of the substance or mixture

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

Restricted to professional users.

## Uses advised against

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

## 1.3. Details of the supplier of the safety data sheet

## Company and address

**Biotium, Inc.**

46117 Landing Parkway

CA 94538 Fremont

USA

T: +1 510-265-1027

Fax: +1 510-265-1352

<http://www.biotium.com>

## E-mail

[techsupport@biotium.com](mailto:techsupport@biotium.com)

## SDS date

5/29/2025

## SDS Version

3.0

## Date of previous version

2/1/2025 (2.0)

## 1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® ([triage.webpoisoncontrol.org](http://triage.webpoisoncontrol.org))

to get specific guidance for your case

See also section 4 "First aid measures".

## SECTION 2: Hazard(s) identification

## OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

## 2.1. ▼ Classification of the substance or mixture

Flam. Liq. 4; H227, Combustible liquid

## 2.2. Label elements

## ▼ Hazard pictogram(s)

Not applicable.

## ▼ Signal word

Warning

▼ Hazard statement(s)

Combustible liquid (H227)

Precautionary statement(s)

General

-

▼ Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)

Response

In case of fire: Use water mist/carbon dioxide/alcohol-resistant foam to extinguish. (P370+P378)

▼ Storage

-

▼ Disposal

-

Additional labelling

Not applicable.

## SECTION 3: Composition/Information on Ingredients

### 3.1. ▼ Substances

Product/substance	Identifiers	% w/w	Classification	Note
Dimethyl sulfoxide	CAS No.: 67-68-5	95-100%		

### 3.2. Mixtures

Not applicable. This product is a substance.

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

### Other information

-

No ingredients present at concentrations classified as harmful to health or the environment.

## SECTION 4: First-aid measures

### 4.1. ▼ Description of first aid measures

#### General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

#### Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

#### Eye contact

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

#### Ingestion

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

▼

## Burns

Not applicable.

### 4.2. Most important symptoms and effects, both acute and delayed

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### Information to medics

Bring this safety data sheet or the label from this product.

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

### 5.2. ▼ Special hazards arising from the substance or mixture

Combustible liquid

In use may form flammable/explosive vapour-air mixture.

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Sulphur oxides

Carbon oxides (CO / CO<sub>2</sub>)

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

## SECTION 6: Accidental release measures

### 6.1. ▼ Personal precautions, protective equipment and emergency procedures

Contaminated areas may be slippery.

### 6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

### 6.3. Methods and material for containment and cleaning up

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

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

### 6.4. Reference to other sections

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: Handling and storage

### 7.1. ▼ Precautions for safe handling

Avoid static electricity.

Protect electrical equipment in accordance with current standards. To divert static electricity during transmission, containers must be grounded and connected by wire with the receiving containers. Do not use spark-forming tools.

Avoid contact during pregnancy and while nursing.

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

### 7.2. ▼ Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

#### Recommended storage material

Always store in containers of the same material as the original container.

**Liquid class**

Flammable liquid / Class IB (NFPA 30)

**Storage conditions**

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

Desiccate.

Room temperature or below. For Biotium products where the label indicates room temperature or RT, this implies storage in ambient conditions between 20°C and 30°C.

**Incompatible materials**

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

**7.3. Specific end use(s)**

This product should only be used for applications quoted in section 1.2.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

No substances are listed with a permissible exposure limit (ref: 29 CFR 1910.1000 TABLE Z-1)

**8.2. Exposure controls**

Apply general control to prevent unnecessary exposure

**General recommendations**

Smoking, drinking and consumption of food is not allowed in the work area.

**Exposure scenarios**

There are no exposure scenarios implemented for this product.

**Exposure limits**

Occupational exposure limits have not been defined for the substances in this product.

**Appropriate technical measures**

Apply standard precautions during use of the product. Avoid inhalation of vapours.

**Hygiene measures**

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

**Measures to avoid environmental exposure**

No specific requirements.

**Individual protection measures, such as personal protective equipment**

**Generally**

Use only protective equipment with a recognized certification mark, e.g. the UL mark.

**Respiratory Equipment**

Type	Class	Colour	Standards
Not required; except in case of aerosol formation.			N/A



**▼ Skin protection**

Recommended	Type/Category	Standards
No specific requirements.	-	-

**Hand protection**

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
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			



Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
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and good laboratory practices. Wash and dry hands.

#### Eye protection

Type	Standards
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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).



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Liquid

#### Color

Clear

#### Odor

Mild

#### ▼ Odor threshold (ppm)

No data available.

#### ▼ pH

No data available.

#### ▼ Density (g/cm<sup>3</sup>)

No data available.

#### ▼ Kinematic viscosity

No data available.

#### Particle characteristics

Does not apply to liquids.

#### Phase changes

#### Melting point/freezing point (°F)

-

#### Melting point/freezing point (°C)

16-19

#### Softening point/range (°F)

Does not apply to liquids.

#### Boiling point (°F)

372

#### Boiling point (°C)

189

#### ▼ Vapor pressure

No data available.

#### Relative vapor density

1.1 g/mL

#### ▼ Decomposition temperature (°F)

No data available.

#### Data on fire and explosion hazards

#### Flash point (°F)

-

#### Flash point (°C)

0

#### ▼ Flammability (°F)

No data available.

Auto-ignition temperature (°F)

572 - 576

Auto-ignition temperature (°C)

300 - 302

▼ Explosion limits (% v/v)

No data available.

#### Solubility

▼ Solubility in water

No data available.

n-octanol/water coefficient (LogKow)

0

▼ Solubility in fat (g/L)

No data available.

#### 9.2. Other information

Decomposition temperature (Self-reactive substances and mixtures) (°C)

> 190

Other physical and chemical parameters

No data available.

▼ Oxidizing properties

No data available.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No data available.

#### 10.2. Chemical stability

The product is stable under the conditions, noted in section 7 "Handling and storage".

#### 10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies

None known.

#### 10.4. Conditions to avoid

Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure.

Heat, flames and sparks.

#### 10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

#### 10.6. ▼ Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### ▼ Acute toxicity

Product/substance	Dimethyl sulfoxide
Test method:	OECD 401
Species:	Rat, male/female
Route of exposure:	Oral
Test:	LD50
Result:	28,300 mg/kg

Product/substance	Dimethyl sulfoxide
Test method:	OECD 403
Species:	Rat, male/female
Route of exposure:	Inhalation
Test:	LC50
Result:	4h - > 5.33 mg/L

Product/substance	Dimethyl sulfoxide
Species:	Rat, male/female
Route of exposure:	Dermal
Test:	LD50

Result: 40,000 mg/kg

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

#### ▼ Skin corrosion/irritation

Product/substance Dimethyl sulfoxide  
Test method: OECD 404  
Species: Rabbit  
Description: Slight irritation 4 h

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

#### ▼ Serious eye damage/irritation

Product/substance Dimethyl sulfoxide  
Test method: OECD 405  
Species: Rabbit  
Description: Slight irritation - 24 h

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

#### ▼ Respiratory sensitisation

Product/substance Dimethyl sulfoxide  
Test method: OECD 406  
Species: Guinea pig  
Description: Negative

---

Product/substance Dimethyl sulfoxide  
Test method: OECD 429  
Species: Mouse  
Description: Negative

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

#### ▼ Skin sensitisation

Product/substance Dimethyl sulfoxide  
Test method: OECD 406  
Species: Guinea pig  
Description: Negative

---

Product/substance Dimethyl sulfoxide  
Test method: OECD 429  
Species: Mouse  
Description: Negative

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

#### ▼ Germ cell mutagenicity

Product/substance Dimethyl sulfoxide  
Test method: OECD 471  
Species: S. typhimurium  
Description: Negative

---

Product/substance Dimethyl sulfoxide  
Test method: OECD Test Guideline 479  
Species: Chinese Hamster Ovary (CHO)  
Description: Negative

---

Product/substance Dimethyl sulfoxide  
Test method: OECD 473  
Species: Chinese Hamster Ovary (CHO)  
Description: Negative

---

Product/substance Dimethyl sulfoxide  
Test method: OECD 474  
Species: Rat  
Description: Negative

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

#### Carcinogenicity

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

#### Reproductive toxicity

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

#### STOT-single exposure

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

#### STOT-repeated exposure

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

#### Aspiration hazard

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

#### Long term effects

Neurotoxic effects: This product contains organic solvents, which may cause adverse effects to the nervous system. Symptoms of neurotoxicity include: loss of appetite, headache, dizziness, ringing in ears, tingling sensations of skin, sensitivity to the cold, cramps, difficulty in concentrating, tiredness, etc. Repeated exposure to solvents can result in the breaking down of the skin's natural fat layer and may result in an increased absorption potential of other hazardous substances at the area of exposure.

#### Other information

None known.

## SECTION 12: Ecological information

### 12.1. ▼ Toxicity

Product/substance	Dimethyl sulfoxide
Test method:	OECD 203
Species:	Fish, Danio rerio
Duration:	96 hours
Test:	LC50
Result:	25,000 mg/L

Product/substance	Dimethyl sulfoxide
Test method:	OECD 202
Species:	Daphnia
Duration:	48 hours
Test:	EC50
Result:	24,600 mg/L

Product/substance	Dimethyl sulfoxide
Test method:	OECD 201
Species:	Algae, Pseudokirchneriella subcapitata
Duration:	72 hours
Test:	ErC50
Result:	17,000 mg/L

Product/substance	Dimethyl sulfoxide
Test method:	ISO 8192
Species:	Bacteria
Compartment:	Activated Sludge Plant
Duration:	30 min.
Test:	EC50
Result:	10 - 100 mg/L

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

### 12.2. Persistence and degradability

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

### 12.3. Bioaccumulative potential

Product/substance	Dimethyl sulfoxide
Conclusion:	Potential for bioaccumulation
Test:	OECD Test Guideline 301D

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

### 12.6. Other adverse effects

This product contains substances with the potential of bioaccumulation resulting in the risk of accumulation in the food chain. Bioaccumulative substances are concentrated in adipose tissue and are not easily secreted.

### SECTION 13: Disposal considerations

#### RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)

None of the components are listed

#### Specific labelling

#### Contaminated packing

Packaging containing residues of the product must be disposed of similarly to the product.

### SECTION 14: Transport information

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other informatio n:
DOT	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

\* Packing group

\*\* Environmental hazards

#### ▼ Additional information

Not dangerous goods according to DOT, IATA and IMDG.

#### 14.6. Special precautions for user

Not applicable.

#### 14.7. Transport in bulk according to IMO instruments

No data available.

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.2. U.S. Federal regulations

##### TSCA (the non-confidential portion)

Dimethyl sulfoxide is listed

##### Clean Air Act

None of the components are listed

##### EPCRA Section 302

None of the components are listed

##### EPCRA Section 304

None of the components are listed

##### EPCRA section 313

None of the components are listed

##### CERCLA

None of the components are listed

##### Hazardous chemical inventory reporting

This product is subject to Tier II reporting.

#### State regulations

##### California / Prop. 65

None of the components are listed

##### Massachusetts / Right To Know Act

None of the components are listed

##### New Jersey / Right To Know Act

Dimethyl sulfoxide / Substance number: 4145

Dimethyl sulfoxide is on the Special Health Hazard Substance List

—

##### New York / Right To Know Act

None of the components are listed

##### Pennsylvania / Right To Know Act

None of the components are listed

#### 15.4. Restrictions for application

Restricted to professional users.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

#### 15.5. Demands for specific education

No specific requirements.

#### 15.6. Additional information

Not applicable.

#### 15.7. Chemical safety assessment

No

#### 15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

### SECTION 16: Other information

#### The full text of identified uses as mentioned in section 1

None known.

#### Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances

EPCRA = Emergency Planning and Community Right-To-Know Act

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HCIS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

NFPA = National Fire Protection Association

NIOSH = National Institute for Occupational Safety and Health

OECD = Organisation for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic

RCRA = Resource Conservation and Recovery Act

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SARA = Superfund Amendments and Reauthorization Act

SCL = A specific concentration limit.

STEL = Short-term exposure limits

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TSCA = The Toxic Substances Control Act

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

#### ▼ Additional information

Not applicable.

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.

The safety data sheet is validated by

Eric Torres

#### Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

Country-language: US-en

## SAFETY DATA SHEET

## Live-or-Dye™ Fixable Viability Dye

## SECTION 1: Identification

## 1.1. Product identifier

## Trade name

Live-or-Dye™ Fixable Viability Dye

## ▼ Other names / Synonyms

32002A: Live-or-Dye™ 350/448 Fixable Viability Dye, 1 vial  
32003A: Live-or-Dye™ 405/452 Fixable Viability Dye, 1 vial  
32004A: Live-or-Dye™ 488/515 Fixable Viability Dye, 1 vial  
32005A: Live-or-Dye™ 568/583 Fixable Viability Dye, 1 vial  
32006A: Live-or-Dye™ 594/614 Fixable Viability Dye, 1 vial  
32007A: Live-or-Dye™ 640/662 Fixable Viability Dye, 1 vial  
32008A: Live-or-Dye™ 750/777 Fixable Viability Dye, 1 vial  
32009A: Live-or-Dye™ 405/545 Fixable Viability Dye, 1 vial  
32011A: Live-or-Dye™ 787/808 Fixable Viability Dye, 1 vial  
32012A: Live-or-Dye™ 510/550 Fixable Viability Dye, 1 vial  
32013A: Live-or-Dye™ 665/685 Fixable Viability Dye, 1 vial  
32014A: Live-or-Dye™ 375/600 Fixable Viability Dye, 1 vial  
32015A: Live-or-Dye™ 615/740 Fixable Viability Dye, 1 vial  
32018A: Live-or-Dye™ 330/410 Fixable Viability Dye, 1 vial  
32021A: Live-or-Dye™ 820/835 Fixable Viability Dye, 1 vial  
32022A: Live-or-Dye™ 850/870 Fixable Viability Dye, 1 vial  
32023A: Live-or-Dye™ 650/720 Fixable Viability Dye, 1 vial

## ▼ Product no.

32002A, 32003A, 32004A, 32005A, 32006A, 32007A, 32008A, 32009A, 32011A, 32012A, 32013A, 32014A, 32015A, 32018A, 32021A, 32022A, 32023A

## 1.2. Relevant identified uses of the substance or mixture and uses advised against

## Relevant identified uses of the substance or mixture

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

## Uses advised against

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

## 1.3. Details of the supplier of the safety data sheet

## Company and address

**Biotium, Inc.**  
46117 Landing Parkway  
CA 94538 Fremont  
USA  
T: +1 510-265-1027  
Fax: +1 510-265-1352  
<http://www.biotium.com>

## E-mail

[techsupport@biotium.com](mailto:techsupport@biotium.com)

## SDS date

9/18/2025

## SDS Version

2.0

#### Date of previous version

6/25/2025 (1.0)

#### 1.4. Emergency telephone number

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® ([triage.webpoisoncontrol.org](https://www.webpoisoncontrol.org)) to get specific guidance for your case

See also section 4 "First aid measures".

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

Not classified according to HCS (29 CFR 1910.1200)

### 2.2. Label elements

#### Hazard pictogram(s)

Not applicable.

#### Signal word

Not applicable.

#### Hazard statement(s)

#### Precautionary statement(s)

##### ▼ General

Not applicable.

##### ▼ Prevention

Not applicable.

##### ▼ Response

Not applicable.

##### ▼ Storage

Not applicable.

##### ▼ Disposal

Not applicable.

## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Not applicable. This product is a mixture.

### 3.2. Mixtures

Does not contain any substances required to report

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

#### Other information

-

No ingredients present at concentrations classified as harmful to health or the environment.

## SECTION 4: First-aid measures

### 4.1. ▼ Description of first aid measures

#### General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

#### ▼ Inhalation

Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

▼ **Skin contact**

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.

▼ **Eye contact**

If in eyes: Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Remove contact lenses. Seek medical assistance and continue flushing during transport.

▼ **Ingestion**

If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

**Burns**

Not applicable.

**4.2. Most important symptoms and effects, both acute and delayed**

None known.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Information to medics**

Bring this safety data sheet or the label from this product.

## SECTION 5: Fire-fighting measures

**5.1. Extinguishing media**

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

**5.2. Special hazards arising from the substance or mixture**

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

**5.3. Advice for firefighters**

No specific requirements.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Contaminated areas may be slippery.

**6.2. Environmental precautions**

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

**6.3. Methods and material for containment and cleaning up**

Limit spillage, sweep up and shovel into appropriate containers for disposal. Store in suitable, closed containers for disposal.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

**6.4. Reference to other sections**

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage material

Always store in containers of the same material as the original container.

Storage conditions

- Desiccate.
- Freezer -10°C to -35°C.
- Protect from light.

Incompatible materials

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters

No substances are listed with a permissible exposure limit (ref: 29 CFR 1910.1000 TABLE Z-1)

8.2. ▼ Exposure controls

Apply general control to prevent unnecessary exposure

General recommendations

Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios

There are no exposure scenarios implemented for this product.

Exposure limits

Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures

Apply standard precautions during use of the product. Avoid inhalation of gas or dust.

▼ Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Pay special attention to hands, forearms and face.

Measures to avoid environmental exposure

No specific requirements.

Individual protection measures, such as personal protective equipment

Generally

Use only protective equipment with a recognized certification mark, e.g. the UL mark.

Respiratory Equipment

Type	Class	Colour	Standards
Not required; except in case of aerosol formation.			N/A



Skin protection

No specific requirements.

Hand protection

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
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.			



Material	Glove thickness (mm)	Breakthrough time (min.)	Standards
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.			

Eye protection

Type	Standards
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).	EN166



**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

Physical state

Solid

Color

No data available.

Odor

No data available.

Odor threshold (ppm)

No data available.

pH

No data available.

Density (g/cm<sup>3</sup>)

No data available.

Kinematic viscosity

Does not apply to solids.

Particle characteristics

No data available.

Phase changes

Melting point/freezing point (°F)

No data available.

Softening point/range (°F)

Does not apply to solids.

Boiling point (°F)

Does not apply to solids.

Vapor pressure

No data available.

Relative vapor density

Does not apply to solids.

Decomposition temperature (°F)

No data available.

Data on fire and explosion hazards

**Flash point (°F)**

Does not apply to solids.

**Flammability (°F)**

No data available.

**Auto-ignition temperature (°F)**

No data available.

**Explosion limits (% v/v)**

Does not apply to solids.

**Solubility****Solubility in water**

No data available.

**n-octanol/water coefficient (LogKow)**

No data available.

**Solubility in fat (g/L)**

No data available.

**9.2. Other information****Other physical and chemical parameters**

No data available.

**Oxidizing properties**

No data available.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No data available.

**10.2. Chemical stability**

The product is stable under the conditions, noted in section 7 "Handling and storage".

**10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies**

None known.

**10.4. Conditions to avoid**

Heat, flames and sparks.

**10.5. Incompatible materials**

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

**10.6. Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****▼ Acute toxicity**

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

**▼ Skin corrosion/irritation**

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

**▼ Serious eye damage/irritation**

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

**▼ Respiratory sensitisation**

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

**▼ Skin sensitisation**

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

**▼ Germ cell mutagenicity**

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

**▼ Carcinogenicity**

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

▼ **Reproductive toxicity**

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

▼ **STOT-single exposure**

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

▼ **STOT-repeated exposure**

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

▼ **Aspiration hazard**

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

**Long term effects**

None known.

**Other information**

None known.

**SECTION 12: Ecological information**

12.1. ▼ **Toxicity**

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

12.2. ▼ **Persistence and degradability**

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

12.3. ▼ **Bioaccumulative potential**

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

12.4. **Mobility in soil**

No data available.

12.5. **Results of PBT and vPvB assessment**

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. **Other adverse effects**

None known.

**SECTION 13: Disposal considerations**

**RCRA Hazardous waste ("P" and "U" list) (40 CFR 261)**

None of the components are listed

**Specific labelling**

**Contaminated packing**

Packaging containing residues of the product must be disposed of similarly to the product.

**SECTION 14: Transport information**

	<b>14.1 UN / ID</b>	<b>14.2 UN proper shipping name</b>	<b>14.3 Hazard class(es)</b>	<b>14.4 PG*</b>	<b>14.5 Env**</b>	<b>Other informatio n:</b>
DOT	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

\* Packing group

\*\* Environmental hazards

**Additional information**

Not dangerous goods according to DOT, IATA and IMDG.

14.6. **Special precautions for user**

Not applicable.

14.7. **Transport in bulk according to IMO instruments**

No data available.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. U.S. Federal regulations

#### TSCA (the non-confidential portion)

None of the components are listed

#### Clean Air Act

None of the components are listed

#### EPCRA Section 302

None of the components are listed

#### EPCRA Section 304

None of the components are listed

#### EPCRA section 313

None of the components are listed

#### CERCLA

None of the components are listed

#### Hazardous chemical inventory reporting

This product is not subject to Tier II reporting.

### State regulations

#### California / Prop. 65

None of the components are listed

#### Massachusetts / Right To Know Act

None of the components are listed

#### New Jersey / Right To Know Act

None of the components are listed

#### New York / Right To Know Act

None of the components are listed

#### Pennsylvania / Right To Know Act

None of the components are listed

### 15.4. Restrictions for application

Restricted to professional users.

### 15.5. Demands for specific education

No specific requirements.

### 15.6. Additional information

Not applicable.

### 15.7. Chemical safety assessment

No

### 15.8. Sources

OSHA Hazard Communication Standard (29 CFR 1910.1200)

## SECTION 16: Other information

### The full text of identified uses as mentioned in section 1

None known.

### Abbreviations and acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances  
EPCRA = Emergency Planning and Community Right-To-Know Act  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
HCIS = Hazardous Chemical Information System  
HNOC = Hazards Not Otherwise Classified  
IARC = International Agency for Research on Cancer  
IATA = International Air Transport Association  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
NFPA = National Fire Protection Association  
NIOSH = National Institute for Occupational Safety and Health  
OECD = Organisation for Economic Co-operation and Development  
OSHA = Occupational Safety and Health Administration  
PBT = Persistent, Bioaccumulative and Toxic  
RCRA = Resource Conservation and Recovery Act  
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
RRN = REACH Registration Number  
SARA = Superfund Amendments and Reauthorization Act  
SCL = A specific concentration limit.  
STEL = Short-term exposure limits  
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
STOT-SE = Specific Target Organ Toxicity - Single Exposure  
TSCA = The Toxic Substances Control Act  
TWA = Time weighted average  
UN = United Nations  
UVBC = Unknown or variable composition, complex reaction products or of biological materials  
VOC = Volatile Organic Compound  
vPvB = Very Persistent and Very Bioaccumulative

▼ **Additional information**

Not applicable.

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.

[The safety data sheet is validated by](#)

Julianne Davis

**Other**

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

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