

SAFETY DATA SHEET

Live-or-Dye™ Fixable Viability Staining Kits

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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.

Use descriptors (REACH)

Sectors of use	Description
SU 24	Scientific research and development
Product category	Description
PC 21	Laboratory Chemicals
Process category	Description
PROC 15	Use as laboratory reagent

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

Revision

23/09/2025

SDS Version

2.0

Date of previous version

26/06/2025 (1.0)

1.4. Emergency telephone number

Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)

See also section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

See individual kit component SDS attached.

Not classified according to Regulation (EC) No. 1272/2008 (CLP).

2.2. Label elements

See individual kit component SDS attached.

Hazard pictogram(s)

Not applicable.

Signal word

Not applicable.

Hazard statement(s)

Not applicable.

Precautionary statement(s)

▼ General

Not applicable.

▼ Prevention

Not applicable.

▼ Response

Not applicable.

▼ Storage

Not applicable.

▼ Disposal

Not applicable.

Hazardous substances

Does not contain any substances required to report

▼ Additional labelling

2.3. Other hazards

See individual kit component SDS attached.

Additional warnings

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

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

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

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

In the case of accident: Contact a doctor or casualty department – bring the label or this safety data sheet. The doctor can contact the Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)

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: Firefighting 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 in the Belgium list of substances with an occupational exposure limit.

DNEL

No data available.

PNEC

No data available.

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

See the exposure scenario appended to the safety data sheet. Ensure that the operational conditions and risk management measures in the relevant exposure scenario are complied with.

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 CE marked protective equipment.

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

Colour

No data available

Odour / Odour threshold

No data available

pH

No data available

Density (g/cm³)

No data available

Relative density

No data available

Kinematic viscosity

No data available

Particle characteristics

No data available

Phase changes

Melting point/Freezing point (°C)

No data available

Softening point/range (°C)

Does not apply to liquids.

Boiling point (°C)

No data available

Vapour pressure

No data available

Relative vapour density

No data available

Decomposition temperature (°C)

No data available

Data on fire and explosion hazards

Flash point (°C)

No data available

Flammability (°C)

No data available

Auto-ignition temperature (°C)

No data available

Lower and upper explosion limit (% 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

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 hazard classes as defined in Regulation (EC) No 1272/2008

▼ 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.

11.2. Information on other hazards

Long term effects

None known.

Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

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. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product is not covered by regulations on dangerous waste.
Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code

Not applicable.

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 information:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group

** Environmental hazards

Additional information

Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Maritime 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

Restrictions for application

Restricted to professional users.

Demands for specific education

No specific requirements.

SEVESO - Categories / dangerous substances

Not applicable.

Additional information

Not applicable.

Sources

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No

SECTION 16: Other information

The full text of identified uses as mentioned in section 1

SU 24 = Scientific research and development

PROC 15 = Use as laboratory reagent

PC 21 = Laboratory Chemicals

Abbreviations and acronyms

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

CE = Conformité Européenne (European conformity)

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial chemical Substances

ES = Exposure Scenario

EUH statement = CLP-specific Hazard statement

EuPCS = European Product Categorisation System

EWG = European Waste Catalogue

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

GWP = Global warming potential

IARC = International Agency for Research on Cancer (IARC)

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

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)

OECD = Organisation for Economic Co-operation and Development

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

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

RRN = REACH Registration Number

SCL = A specific concentration limit

SVHC = Substances of Very High Concern

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

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: BE-en

SAFETY DATA SHEET

Anhydrous DMSO

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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

EC No.: 200-664-3
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.

Use descriptors (REACH)

Sectors of use	Description
SU 24	Scientific research and development
Product category	Description
PC 21	Laboratory Chemicals
Process category	Description
PROC 15	Use as laboratory reagent

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

Revision

29/05/2025

SDS Version

3.0

Date of previous version

01/02/2025 (2.0)

1.4. Emergency telephone number

Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)
See also section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. ▼ Classification of the substance or mixture

Not classified according to Regulation (EC) No. 1272/2008 (CLP).

2.2. Label elements

▼ Hazard pictogram(s)

Not applicable.

▼ Signal word

Not applicable.

▼ Hazard statement(s)

Not applicable.

Precautionary statement(s)

General

-

▼ Prevention

-

▼ Response

-

▼ Storage

-

▼ Disposal

-

▼ Hazardous substances

Does not contain any substances required to report

Additional labelling

Not applicable.

2.3. Other hazards

Additional warnings

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

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

SECTION 3: Composition/information on ingredients

3.1. ▼ Substances

Product/substance	Identifiers	% w/w	Classification	Note
Dimethyl sulfoxide	CAS No.: 67-68-5 EC No.: 200-664-3 REACH: Index No.:	95-100%		

3.2. Mixtures

Not applicable. This product is a substance.

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

In the case of accident: Contact a doctor or casualty department – bring the label or this safety data sheet. The doctor can contact the Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)

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**

In case of discomfort: bring the person into fresh air.

▼ **Skin contact**

Upon irritation: rinse with water. In the event of continued irritation, seek medical assistance.

▼ **Eye contact**

Rinse gently with lukewarm water. Remove any contact lenses if this is easy to do. Continue rinsing. In case of persistent eye irritation or discomfort: Seek medical help.

▼ **Ingestion**

Rinse and flush mouth thoroughly and consume large quantities of water. In case of continued discomfort: seek medical assistance and bring this safety data sheet.

▼ **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: Firefighting 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.

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 / CO₂)

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

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

Recommended storage material

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

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 in the Belgium list of substances with an occupational exposure limit.

DNEL

Dimethyl sulfoxide

Duration:	Route of exposure:	DNEL:
Long term – Systemic effects - General population	Dermal	178 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	356 mg/kg bw/day
Long term – Local effects - General population	Inhalation	3.13 mg/m ³
Long term – Local effects - Workers	Inhalation	17.67 mg/m ³
Long term – Systemic effects - General population	Inhalation	56 mg/m ³
Long term – Systemic effects - Workers	Inhalation	75 mg/m ³
Long term – Systemic effects - General population	Oral	1.67 mg/kg bw/day

PNEC

Dimethyl sulfoxide

Route of exposure:	Duration of Exposure:	PNEC:
Freshwater		17 mg/L
Freshwater sediment		61.4 mg/kg
Marine water		1.7 mg/L
Marine water sediment		6.14 mg/kg
Predators		700 mg/kg
Sewage treatment plant		11 mg/L
Soil		2.32 mg/kg

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

Wash hands after use.

Measures to avoid environmental exposure

No specific requirements.

Individual protection measures, such as personal protective equipment

Generally

Use only CE marked protective equipment.

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 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

Colour

Clear

Odour / Odour threshold

Mild

▼ pH

No data available.

▼ Density (g/cm³)

No data available.

▼ Kinematic viscosity

No data available.

Particle characteristics

Does not apply to liquids.

Phase changes

Melting point/Freezing point (°C)

16-19

Softening point/range (°C)

Does not apply to liquids.

Boiling point (°C)

189

▼ Vapour pressure

No data available.

Relative vapour density

1.1 g/mL

▼ Decomposition temperature (°C)

No data available.

Data on fire and explosion hazards

Flash point (°C)

0

▼ Flammability (°C)

No data available.

Auto-ignition temperature (°C)

300 - 302

▼ Lower and upper explosion limit (% 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

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 hazard classes as defined in Regulation (EC) No 1272/2008

▼ **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.

11.2. Information on other hazards

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.

▼ Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

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. ▼ Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. 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

13.1. ▼ Waste treatment methods

Product is not covered by regulations on dangerous waste.
 Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code

Not applicable.

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 information:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group

** Environmental hazards

▼ Additional information

Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Maritime 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

▼ 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.

Demands for specific education

No specific requirements.

▼ SEVESO - Categories / dangerous substances

Not applicable.

Additional information

Not applicable.

▼ Sources

Labor Law of 24-01-1985, updated 31-12-2020.

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No

SECTION 16: Other information

The full text of identified uses as mentioned in section 1

SU 24 = Scientific research and development

PROC 15 = Use as laboratory reagent

PC 21 = Laboratory Chemicals

Abbreviations and acronyms

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

CE = Conformité Européenne (European conformity)

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

CSA = Chemical Safety Assessment

CSR = Chemical Safety Report

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial chemical Substances

ES = Exposure Scenario

EUH statement = CLP-specific Hazard statement

EuPCS = European Product Categorisation System

EWG = European Waste Catalogue

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

GWP = Global warming potential

IARC = International Agency for Research on Cancer (IARC)

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

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)

OECD = Organisation for Economic Co-operation and Development

PBT = Persistent, Bioaccumulative and Toxic

PNEC = Predicted No Effect Concentration

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

RRN = REACH Registration Number

SCL = A specific concentration limit

SVHC = Substances of Very High Concern

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

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

In accordance with Article 31 of REACH, a safety data sheet is not required for this product. This safety data sheet has been created on a voluntary basis to distribute relevant information as required under Article 32 of REACH.

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: BE-en

SAFETY DATA SHEET

Live-or-Dye™ Fixable Viability Dye

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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.

Use descriptors (REACH)

Sectors of use	Description
SU 24	Scientific research and development
Product category	Description
PC 21	Laboratory Chemicals
Process category	Description
PROC 15	Use as laboratory reagent

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

Revision

18/09/2025

SDS Version

2.0

Date of previous version

25/06/2025 (1.0)

1.4. Emergency telephone number

Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)

See also section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Not classified according to Regulation (EC) No. 1272/2008 (CLP).

2.2. Label elements

Hazard pictogram(s)

Not applicable.

Signal word

Not applicable.

Hazard statement(s)

Not applicable.

Precautionary statement(s)

▼ **General**

Not applicable.

▼ **Prevention**

Not applicable.

▼ **Response**

Not applicable.

▼ **Storage**

Not applicable.

▼ **Disposal**

Not applicable.

Hazardous substances

Does not contain any substances required to report

▼ **Additional labelling**

2.3. Other hazards

Additional warnings

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

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2023/707.

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

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

In the case of accident: Contact a doctor or casualty department – bring the label or this safety data sheet. The doctor can contact the Anti-poison center: +32 (0) 70 245 245 (every day, 24 hours a day)

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: Firefighting 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 in the Belgium list of substances with an occupational exposure limit.

DNEL

No data available.

PNEC

No data available.

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 CE marked protective equipment.

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

Solid

Colour

No data available.

Odour / Odour threshold

No data available.

pH

No data available.

Density (g/cm³)

No data available.

Kinematic viscosity

Does not apply to solids.

Particle characteristics

No data available.

Phase changes

Melting point/Freezing point (°C)

No data available.

Softening point/range (°C)

Does not apply to solids.

Boiling point (°C)

Does not apply to solids.

Vapour pressure

No data available.

Relative vapour density

Does not apply to solids.

Decomposition temperature (°C)

No data available.

Data on fire and explosion hazards

Flash point (°C)

Does not apply to solids.

Flammability (°C)

No data available.

Auto-ignition temperature (°C)

No data available.

Lower and upper explosion limit (% 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

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 hazard classes as defined in Regulation (EC) No 1272/2008

▼ 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.

11.2. Information on other hazards

Long term effects

None known.

Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

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. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product is not covered by regulations on dangerous waste.

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

EWC code

Not applicable.

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:
ADR	-	-	-	-	-	-
IMDG	-	-	-	-	-	-
IATA	-	-	-	-	-	-

* Packing group

** Environmental hazards

Additional information

Not dangerous goods according to ADR, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Maritime 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

Restrictions for application

Restricted to professional users.

Demands for specific education

No specific requirements.

SEVESO - Categories / dangerous substances

Not applicable.

Additional information

Not applicable.

Sources

Commission Regulation (EU) No 1357/2014 of 18 December 2014 on waste.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

No

SECTION 16: Other information

The full text of identified uses as mentioned in section 1

SU 24 = Scientific research and development

PROC 15 = Use as laboratory reagent

PC 21 = Laboratory Chemicals

Abbreviations and acronyms

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
CE = Conformité Européenne (European conformity)
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EuPCS = European Product Categorisation System
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
GWP = Global warming potential
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
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)
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RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
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: BE-en