SAFETY DATA SHEET

# ViaFluor® Live Cell Microtubule Stains

## SECTION 1: Identification

### 1.1. Product identifier

**Trade name**

ViaFluor® Live Cell Microtubule Stains

**Other names / Synonyms**

70062-T: ViaFluor® 488 Live Cell Microtubule Stain, 10 µL
70062: ViaFluor® 488 Live Cell Microtubule Stain, 50 µL
70063-T: ViaFluor® 647 Live Cell Microtubule Stain, 10 µL
70063: ViaFluor® 647 Live Cell Microtubule Stain, 50 µL
70064-T: ViaFluor® 405 Live Cell Microtubule Stain, 10 µL
70064: ViaFluor® 405 Live Cell Microtubule Stain, 50 µL

Kit Components:
70062-10UL: ViaFluor® 488 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70062-50UL: ViaFluor® 488 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL
70063-10UL: ViaFluor® 647 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70063-50UL: ViaFluor® 647 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL
70064-10UL: ViaFluor® 405 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70064-50UL: ViaFluor® 405 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL
99836-20UL: Verapamil HCl, 100 mM in DMSO, 20 µL
99836-100UL: Verapamil HCl, 100 mM in DMSO, 100 µL

**Product no.**

70062-T, 70062, 70063-T, 70063, 70064-T, 70064

### 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 and industrial use.

**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

**SDS date**

2026-10-28

**SDS Version**

2.0

**Date of previous version**

2026-10-27 (2.0)

### 1.4. Emergency telephone number

In an emergency call 911
Alberta / Northwestern Territories (PADIS): 1-800-332-1414
British Columbia (DPIC): 1-800-567-8911
Manitoba: 1-855-7POISON (1-855-776-4766)
New Brunswick: 911
Nova Scotia / Prince Edward Island (IWK): 1-800-565-8161
Ontario (OPC): 1-800-268-9017
Québec (CAPQ): 1-800-463-5060
Saskatchewan (PADIS): 1-866-454-1212
Yukon Territory: (867) 393-8700
Transport emergenices: Call CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone (24 hours)
See also section 4 “First aid measures”.

## SECTION 2: Hazard(s) identification

Classified as hazardous according to Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272).

### 2.1. Classification of the substance or mixture

Acute Tox. 4; H302, Harmful if swallowed.
Acute Tox. 4; H312, Harmful in contact with skin.
Acute Tox. 2; H330, Fatal if inhaled.
See individual kit component SDS attached.

### 2.2. Label elements

See individual kit component SDS attached.

#### Hazard pictogram(s)



#### Signal word

Danger

#### Hazard statement(s)

Harmful if swallowed or in contact with skin. (H302+H312)
Fatal if inhaled. (H330)

#### Precautionary statement(s)

##### General

Not applicable.

##### Prevention

Do not breathe vapour/mist. (P260)
Wash hands and exposed skin thoroughly after handling. (P264)
Use only outdoors or in a well-ventilated area. (P271)
Wear eye protection/face protection/protective gloves. (P280)
[In case of inadequate ventilation] wear respiratory protection. (P284)

##### Response

IF ON SKIN: Wash with plenty of water and soap. (P302+P352)
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
Immediately call a POISON CENTER/doctor. (P310)
Specific treatment is urgent (see instructions on this label). (P320)
Take off contaminated clothing and wash it before reuse. (P362+P364)

##### Storage

Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
Store locked up. (P405)

##### Disposal

Dispose of contents/container in accordance with local regulation.
(P501)

### Hazardous substances

Verapamil hydrochloride

### 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

| Chemical name | Common name/synonyms | Identifiers | % w/w | Classification | Note |
|---|---|---|---|---|---|
| Verapamil hydrochloride | | CAS No.: 152-11-4 | 25-40% | Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 2, H330 | |

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 injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### 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.

If skin irritation occurs: Get medical advice/attention.

#### 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 SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Rinse mouth.

#### 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

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

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact a poison centre in order to obtain further advice. See section 1 “Emergency telephone number”.

## SECTION 6: Accidental release measures

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

Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.
Avoid inhalation of vapours from spilled material.
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 direct contact with the product.
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

Store locked up. A sign warning of toxic materials shall be affixed the room and cupboard containing the product(s).
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 any provincial list of substances with an occupational exposure limit.

### 8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

#### 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

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

#### Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

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

Keep damming materials near the workplace. If possible, collect spillage during work.

#### 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 | | | |  |

| Material | Glove thickness (mm) | Breakthrough time (min.) | Standards |
|---|---|---|---|
| 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
No data available

Odour threshold (ppm)
No data available

pH
No data available

Density (g/cm$^3$)
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 (°F)
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
Explosion limits (% v/v)
No data available

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
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
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
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
Harmful if swallowed.
Harmful in contact with skin.
Fatal if inhaled.
Skin corrosion/irritation
Based on available data, the classification criteria are not met.
Serious eye damage/irritation
Based on available data, the classification criteria are not met.
Respiratory sensitisation
Based on available data, the classification criteria are not met.
Skin sensitisation
Based on available data, the classification criteria are not met.
Germ cell mutagenicity
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
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
Based on available data, 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

### Waste treatment methods
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 information: |
|---|---|---|---|---|---|---|
| TDG | - | - | - | - | - | - |
| IMDG | - | - | - | - | - | - |
| IATA | - | - | - | - | - | - |

* Packing group
** Environmental hazards
*** UN number or ID number

### Additional information

This product is within scope of the regulations of transport of dangerous goods.

### 14.6. Special precautions for user

Not applicable.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

## SECTION 15: Regulatory information

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

### 15.2. Canadian lists

#### NDSL

None of the components are listed

#### DSL

Verapamil hydrochloride is listed

### 15.4. Restrictions for application

Restricted to professional users.
The product must not be used professionally by persons under 18 years of age.
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.

### Additional information

Not applicable.

### 15.7. Chemical safety assessment

No

### Sources

Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272)

## SECTION 16: Other information

### Full text of H-phrases as mentioned in section 3

H301, Toxic if swallowed.
H311, Toxic in contact with skin.
H330, Fatal if inhaled.

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

None known.

### Abbreviations and acronyms

ANSI = American National Standards Institute
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
DSL = Domestic Substances List
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HHNOC = Health Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogKow = logarithm of the n-octanol/water coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NDSL = Non-domestic substances list
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PHNOC = Physical Hazards Not Otherwise Classified

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SCL = A specific concentration limit.
SOR = Statutory Orders and Regulations
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TDG = Transportation of Dangerous Goods
TWA = Time weighted average
UN = United Nations
UVCB = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
WHIMS = Workplace Hazardous Materials Information System

### Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by WHMIS 2022

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

Padmavathi Bandhuvula

### SDS date

2026-10-28

### 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: CA-en

SAFETY DATA SHEET

# ViaFluor® Live Cell Microtubule Stain, 1000X in DMSO

## SECTION 1: Identification

### 1.1. Product identifier

**Trade name**

ViaFluor® Live Cell Microtubule Stain, 1000X in DMSO

**Other names / Synonyms**

70062-10UL: ViaFluor® 488 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70062-50UL: ViaFluor® 488 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL
70063-10UL: ViaFluor® 647 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70063-50UL: ViaFluor® 647 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL
70064-10UL: ViaFluor® 405 Live Cell Microtubule Stain, 1000X in DMSO, 10 µL
70064-50UL: ViaFluor® 405 Live Cell Microtubule Stain, 1000X in DMSO, 50 µL

**▼Product no.**

70062-10UL, 70062-50UL, 70063-10UL, 70063-50UL, 70064-10UL, 70064-50UL

**▼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 and industrial use.

**Uses advised against**

None known.

### 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

**SDS date**

2026-10-28

**SDS Version**

4.0

**Date of previous version**

2026-10-27 (3.0)

### 1.4. Emergency telephone number

In an emergency call 911
Alberta / Northwestern Territories (PADIS): 1-800-332-1414
British Columbia (DPIC): 1-800-567-8911
Manitoba: 1-855-7POISON (1-855-776-4766)
New Brunswick: 911
Nova Scotia / Prince Edward Island (IWK): 1-800-565-8161
Ontario (OPC): 1-800-268-9017

Québec (CAPQ): 1-800-463-5060
Saskatchewan (PADIS): 1-866-454-1212
Yukon Territory: (867) 393-8700
Transport emergenices: Call CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone (24 hours)
See also section 4 “First aid measures”.

## SECTION 2: Hazard(s) identification

Classified as hazardous according to Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272).

### 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

Not applicable.

##### ▼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

Not applicable.

##### Disposal

Not applicable.

#### Hazardous substances

Contains no substances that need to be listed on the label.

## SECTION 3: Composition/Information on Ingredients

### 3.1. ▼Substances

| Chemical name | Common name/synonyms | Identifiers | % w/w | Classification | Note |
|---|---|---|---|---|---|
| Dimethyl sulfoxide | | CAS No.: 67-68-5 | 95-100% | Flam. Liq. 4, H227 | |

### 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

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.
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 / CO2)

### 5.3. ▼Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact a poison centre in order to obtain further advice. See section 1 "Emergency telephone number".

## SECTION 6: Accidental release measures

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

Ensure adequate ventilation, especially in confined areas.
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

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

#### Storage conditions

Refrigerator 2°C to 8°C.
Protect from light.
Keep container tightly closed in a dry and well-ventilated place.

#### 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 any provincial list of substances with an occupational exposure limit.

### 8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

#### 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

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

#### Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.
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 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**

No data available.

**Odour threshold (ppm)**

No data available.

**pH**

No data available.

Density (g/cm$^3$)

No data available.

Kinematic viscosity

No data available.

Particle characteristics

Does not apply to liquids.

Phase changes

Melting point/Freezing point (°C)

No data available.

Softening point/range (°F)

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.

Explosion limits (% v/v)

No data available.

Solubility

Solubility in water

Soluble in water

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

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

### Waste treatment methods

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 information: |
|---|---|---|---|---|---|---|
| TDG | - | - | - | - | - | - |
| IMDG | - | - | - | - | - | - |
| IATA | - | - | - | - | - | - |

* Packing group

** Environmental hazards

*** UN number or ID number

Additional information

Not dangerous goods according to TDG, IATA and IMDG.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

## SECTION 15: Regulatory information

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

15.2. Canadian lists

NDSL

None of the components are listed

DSL

Dimethyl sulfoxide is listed

15.4. Restrictions for application

Restricted to professional users.

15.5. Demands for specific education

No specific requirements.

Additional information

Not applicable.

15.7. Chemical safety assessment

No

Sources

Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272)

## SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

H227, Combustible liquid

The full text of identified uses as mentioned in section 1

None known.

Abbreviations and acronyms

ANSI = American National Standards Institute
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
DSL = Domestic Substances List
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HHNOC = Health Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogKow = logarithm of the n-octanol/water coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NDSL = Non-domestic substances list
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PHNOC = Physical Hazards Not Otherwise Classified
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SCL = A specific concentration limit.
SOR = Statutory Orders and Regulations
STEL = Short-term exposure limits

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TDG = Transportation of Dangerous Goods
TWA = Time weighted average
UN = United Nations
UVCB = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
WHIMS = Workplace Hazardous Materials Information System

### 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

Padmavathi Bandhuvula

#### SDS date

2026-10-28

### 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: CA-en

SAFETY DATA SHEET

# Verapamil HCl, 100 mM in DMSO

## SECTION 1: Identification

### 1.1. Product identifier

**Trade name**

Verapamil HCl, 100 mM in DMSO

**Other names / Synonyms**

99836-20UL: Verapamil HCl, 100 mM in DMSO, 20 µL
99836-100UL: Verapamil HCl, 100 mM in DMSO, 100 µL

**Product no.**

99836-20UL, 99836-100UL

### 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 and industrial use.

**Uses advised against**

None known.

### 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

**SDS date**

2026-10-28

**SDS Version**

2.0

**Date of previous version**

2026-10-27 (2.0)

### 1.4. Emergency telephone number

In an emergency call 911
Alberta / Northwestern Territories (PADIS): 1-800-332-1414
British Columbia (DPIC): 1-800-567-8911
Manitoba: 1-855-7POISON (1-855-776-4766)
New Brunswick: 911
Nova Scotia / Prince Edward Island (IWK): 1-800-565-8161
Ontario (OPC): 1-800-268-9017
Québec (CAPQ): 1-800-463-5060
Saskatchewan (PADIS): 1-866-454-1212
Yukon Territory: (867) 393-8700
Transport emergenices: Call CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone (24 hours)
See also section 4 “First aid measures”.

## SECTION 2: Hazard(s) identification

Classified as hazardous according to Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272).

### 2.1. Classification of the substance or mixture

Acute Tox. 4; H302, Harmful if swallowed.
Acute Tox. 4; H312, Harmful in contact with skin.
Acute Tox. 2; H330, Fatal if inhaled.

### 2.2. Label elements

#### Hazard pictogram(s)



#### Signal word

Danger

#### Hazard statement(s)

Harmful if swallowed or in contact with skin. (H302+H312)
Fatal if inhaled. (H330)

#### Precautionary statement(s)

##### General

Not applicable.

##### Prevention

Do not breathe vapour/mist. (P260)
Wash hands and exposed skin thoroughly after handling. (P264)
Use only outdoors or in a well-ventilated area. (P271)
Wear eye protection/face protection/protective gloves. (P280)
[In case of inadequate ventilation] wear respiratory protection. (P284)

##### Response

IF ON SKIN: Wash with plenty of water and soap. (P302+P352)
IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304+P340)
Immediately call a POISON CENTER/doctor. (P310)
Specific treatment is urgent (see instructions on this label). (P320)
Take off contaminated clothing and wash it before reuse. (P362+P364)

##### Storage

Store in a well-ventilated place. Keep container tightly closed. (P403+P233)
Store locked up. (P405)

##### Disposal

Dispose of contents/container in accordance with local regulation.
(P501)

#### Hazardous substances

Verapamil hydrochloride

## SECTION 3: Composition/Information on Ingredients

### 3.1. Substances

Not applicable. This product is a mixture.

### 3.2. Mixtures

| Chemical name | Common name/synonyms | Identifiers | % w/w | Classification | Note |
|---|---|---|---|---|---|
| Verapamil hydrochloride | | CAS No.: 152-11-4 | 25-40% | Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 2, H330 | |

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 injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### 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.
If skin irritation occurs: Get medical advice/attention.

#### 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 SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
Rinse mouth.

#### 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

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

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact a poison centre in order to obtain further advice. See section 1 “Emergency telephone number”.

## SECTION 6: Accidental release measures

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

Avoid direct contact with spilled substances.
Ensure adequate ventilation, especially in confined areas.
Avoid inhalation of vapours from spilled material.
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 direct contact with the product.
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

Store locked up. A sign warning of toxic materials shall be affixed the room and cupboard containing the product(s).
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.

#### Storage conditions

Refrigerator 2°C to 8°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 any provincial list of substances with an occupational exposure limit.

### 8.2. Exposure controls

Compliance with the given occupational exposure limits values should be controlled on a regular basis.

#### 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

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

### Appropriate technical measures

The formation of vapours must be kept at a minimum and below current limit values (see above). Installation of a local exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure eyewash and emergency showers are clearly marked.

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

Keep damming materials near the workplace. If possible, collect spillage during work.

## 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

**Colour**
Clear

**Odour**
No data available.

**Odour threshold (ppm)**
No data available.

**pH**
No data available.

**Density (g/cm$^3$)**
No data available.

**Kinematic viscosity**
No data available.

**Particle characteristics**
Does not apply to liquids.

**Phase changes**

**Melting point/Freezing point (°C)**
No data available.

**Softening point/range (°F)**
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.

**Explosion limits (% v/v)**
No data available.

**Solubility**

**Solubility in water**
Soluble in water

**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
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
Harmful if swallowed.
Harmful in contact with skin.
Fatal if inhaled.

#### Skin corrosion/irritation
Based on available data, the classification criteria are not met.

#### Serious eye damage/irritation
Based on available data, the classification criteria are not met.

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

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

#### Germ cell mutagenicity
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
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
Based on available data, 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

### Waste treatment methods
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<br>UN / ID *** | 14.2<br>UN proper shipping name | 14.3<br>Hazard class(es) | 14.4<br>PG* | 14.5<br>Env** | Other information: |
|---|---|---|---|---|---|---|
| TDG | UN2810 | TOXIC LIQUID, ORGANIC, N.O.S. | Transport hazard class: 6.1<br>Label: 6.1<br>Classification code: T1<br> | II | No | Limited quantities: 100 ml<br>Tunnel restriction code: (D/E)<br>See below for additional information. |
| IMDG | UN2810 | TOXIC LIQUID, ORGANIC, N.O.S. | Transport hazard class: 6.1<br>Label: 6.1<br>Classification code: T1<br> | II | No | Limited quantities: 100 ml<br>EmS: F-A S-A<br>See below for additional information. |
| IATA | UN2810 | TOXIC LIQUID, ORGANIC, N.O.S. | Transport hazard class: 6.1<br>Label: 6.1<br>Classification code: T1<br> | II | No | See below for additional information. |

* Packing group
** Environmental hazards
*** UN number or ID number

### Additional information
This product is within scope of the regulations of transport of dangerous goods.
TDG / See Schedule 1 for any information on special provisions, requirements, or warnings in connection with transport. See part 3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.
IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.

IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.

### 14.6. Special precautions for user

Not applicable.

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

## SECTION 15: Regulatory information

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

### 15.2. Canadian lists

#### NDSL

None of the components are listed

#### DSL

Verapamil hydrochloride is listed

### 15.4. Restrictions for application

Restricted to professional users.
The product must not be used professionally by persons under 18 years of age.
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.

### Additional information

Not applicable.

### 15.7. Chemical safety assessment

No

### Sources

Hazardous Products Regulation SOR/2015-17 (as amended by SOR/2022-272)

## SECTION 16: Other information

### Full text of H-phrases as mentioned in section 3

H301, Toxic if swallowed.
H311, Toxic in contact with skin.
H330, Fatal if inhaled.

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

None known.

### Abbreviations and acronyms

ANSI = American National Standards Institute
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
DSL = Domestic Substances List
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HHNOC = Health Hazards Not Otherwise Classified
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods
LogKow = logarithm of the n-octanol/water coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
NDSL = Non-domestic substances list
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PHNOC = Physical Hazards Not Otherwise Classified
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

SCL = A specific concentration limit.
SOR = Statutory Orders and Regulations
STEL = Short-term exposure limits
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TDG = Transportation of Dangerous Goods
TWA = Time weighted average
UN = United Nations
UVCB = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative
WHIMS = Workplace Hazardous Materials Information System

### Additional information

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by WHMIS 2022

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

Padmavathi Bandhuvula

#### SDS date

2026-10-28

### 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: CA-en