SAFETY DATA SHEET

CF® Dye TUNEL Assay Apoptosis Detection Kits

SECTION 1: Identification

1.1. Product identifier

Trade name

CF® Dye TUNEL Assay Apoptosis Detection Kits

Other names / Synonyms

30063: CF®488A TUNEL Assay, 50 reactions
30064: CF®594 TUNEL Assay, 50 reactions
30074: CF®640R TUNEL Assay, 50 reactions
Kit Components:
99965: TUNEL Equilibration Buffer, 5 mL
30063A: CF®488A TUNEL Reaction Buffer, 0.5 mL
30064A: CF®594 TUNEL Reaction Buffer, 0.5 mL
30074A: CF®640R TUNEL Reaction Buffer, 0.5 mL
99964: TdT Enzyme, 50 uL

Product no.

30063, 30064, 30074

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

2026-10-22

SDS Version

3.0

Date of previous version

2026-10-22 (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

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)

May cause an allergic skin reaction. (H317)
May cause cancer by inhalation. (H350i)
May damage fertility. Suspected of damaging the unborn child. (H360Fd)

Precautionary statement(s)

General

Not applicable.

Prevention

Obtain special instructions before use. (P201)
Avoid breathing mist/vapour. (P261)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Wear eye protection/face protection/protective gloves. (P280)

Response

IF exposed or concerned: Get medical advice/attention. (P308+P313)
If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage

Not applicable.

Disposal

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

Hazardous substances

See individual kit component SDS attached.

Additional labelling

Restricted to professional users.

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
Dimethylarsinic acid		CAS No.: 75-60-5	3-5%	Acute Tox. 3, H301 Acute Tox. 3, H331	
cobalt dichloride		CAS No.: 7646-79-9	<0.25%	Acute Tox. 4, H302 Skin Sens. 1, H317 Eye Dam. 1, H318 Resp. Sens. 1B, H334 Muta. 2, H341 Carc. 1B, H350i (C ≥ 0.01%) Repr. 1B, H360Fd	

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

Other information

See individual kit component SDS attached.

SECTION 4: First-aid measures

4.1. Description of first aid measures

General information

If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid).
Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

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

Skin contact

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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.
Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

IF exposed or concerned:
Get immediate medical advice/attention.

Information to medics

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

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
Not applicable.

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:
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.
Contaminated areas may be slippery.

6.2. Environmental precautions
Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

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

Do not recirculate outlet air that contain the substances.

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	EN166	

Type	Standards
protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

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
Heat, flames and sparks.
10.5. Incompatible materials
No specific requirements
10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity
Based on available data, the classification criteria are not met.
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
May cause an allergic skin reaction.
Germ cell mutagenicity
Based on available data, the classification criteria are not met.
Carcinogenicity
May cause cancer by inhalation.
Reproductive toxicity
May damage fertility. Suspected of damaging the unborn child.
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

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.

Other information

Dimethylarsinic acid has been classified by IARC as a group 2B.
cobalt dichloride has been classified by IARC as a group 2A.

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

Dimethylarsinic acid is listed with EPA Hazardous Waste Number: U136

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

Dimethylarsinic acid is listed

DSL

cobalt dichloride 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.
H302, Harmful if swallowed.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H331, Toxic if inhaled.
H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341, Suspected of causing genetic defects.
H350i, May cause cancer by inhalation.
H360Fd, May damage fertility. Suspected of damaging the unborn child.

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

2026-10-22

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

TUNEL Reaction Buffer

SECTION 1: Identification

1.1. Product identifier

Trade name

TUNEL Reaction Buffer

Other names / Synonyms

30063A: CF®488A TUNEL Reaction Buffer, 0.5 mL
30064A: CF®594 TUNEL Reaction Buffer, 0.5 mL
30074A: CF®640R TUNEL Reaction Buffer, 0.5 mL

Product no.

30063A, 30064A, 30074A

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

2026-10-21

SDS Version

1.0

Date of previous version

2026-10-20 (1.0)

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

Skin Sens. 1; H317, May cause an allergic skin reaction.
Carc. 1B; H350i, May cause cancer by inhalation.
Repr. 1B; H360Fd, May damage fertility. Suspected of damaging the unborn child.

2.2. Label elements

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

May cause an allergic skin reaction. (H317)
May cause cancer by inhalation. (H350i)
May damage fertility. Suspected of damaging the unborn child. (H360Fd)

Precautionary statement(s)

General

Not applicable.

Prevention

Obtain special instructions before use. (P201)
Avoid breathing mist/vapour. (P261)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Wear eye protection/face protection/protective gloves. (P280)

Response

IF exposed or concerned: Get medical advice/attention. (P308+P313)
If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage

Not applicable.

Disposal

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

Hazardous substances

cobalt dichloride

Additional labelling

Restricted to professional users.

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
Dimethylarsinic acid		CAS No.: 75-60-5	3-5%	Acute Tox. 3, H301 Acute Tox. 3, H331	

cobalt dichloride	CAS No.: 7646-79-9	<0.25%	Acute Tox. 4, H302 Skin Sens. 1, H317 Eye Dam. 1, H318 Resp. Sens. 1B, H334 Muta. 2, H341 Carc. 1B, H350i (C ≥ 0.01%) Repr. 1B, H360Fd

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.

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 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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.

Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

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

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Not applicable.

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:
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.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

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

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 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

Do not recirculate outlet air that contain the substances.
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	EN166	

Type	Standards
government standards such as NIOSH (US) or EN 166(EU).	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Pink

Odour
No data available.

Odour threshold (ppm)
No data available.

pH
6.6

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

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 toxicological effects

Acute toxicity

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

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

May cause an allergic skin reaction.

Germ cell mutagenicity

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

Carcinogenicity

May cause cancer by inhalation.

Reproductive toxicity

May damage fertility. Suspected of damaging the unborn child.

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

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.

Other information

Dimethylarsinic acid has been classified by IARC as a group 2B.
cobalt dichloride has been classified by IARC as a group 2A.

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
Dimethylarsinic acid is listed with EPA Hazardous Waste Number: U136

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
Dimethylarsinic acid is listed

DSL
cobalt dichloride 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.
H302, Harmful if swallowed.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H331, Toxic if inhaled.
H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341, Suspected of causing genetic defects.
H350i, May cause cancer by inhalation.
H360Fd, May damage fertility. Suspected of damaging the unborn child.

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

2026-10-21

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

TdT Enzyme

SECTION 1: Identification

1.1. Product identifier

Trade name

TdT Enzyme

Other names / Synonyms

99964: TdT Enzyme, 50 uL

Product no.

99964

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

2026-10-21

SDS Version

2.0

Date of previous version

2026-10-21 (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

Eye Irrit. 2; H319, Causes serious eye irritation.

2.2. Label elements

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s)

Causes serious eye irritation. (H319)

Precautionary statement(s)

General

Not applicable.

Prevention

Wear eye protection/face protection/protective gloves. (P280)

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)

If eye irritation persists: Get medical advice/attention. (P337+P313)

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

Not applicable. This product is a mixture.

3.2. Mixtures

Chemical name	Common name/synonyms	Identifiers	% w/w	Classification	Note
Poly(oxy-1,2-ethanediyl), α-[(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy-		CAS No.: 9036-19-5	1-3%	Acute Tox. 4, H302 Eye Dam. 1, H318	

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

▼Other information

-

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

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

Eye contact

If in eyes: Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Remove contact lenses. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. 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

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs.
Exposure 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

If eye irritation persists: Get medical advice/attention.

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:
Halogenated compounds
Some metal oxides

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

Freezer -10°C to -35°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

ALBERTA

Glycerol
Long term exposure limit (8 hours) (mg/m^3): 10
Annotations:
3 = Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.

Occupational Health and Safety Code 2009 Order, Alta Reg 87/2009 (revised in 2018)

BRITISH COLUMBIA
Glycerol
Time-Weighted Average Limit (TWA): 10 mg/m^3 (total / totale) ; 3 mg/m^3 (respirable)
OHS Regulation Part 5: Chemical Agents and Biological Agents.

QUEBEC
Glycerol
Long term exposure limit (8 hours) (mg/m^3): 10
Regulation respecting occupational health and safety (Chapter S-2.1, r. 13)

SASKATCHEWAN
Glycerol
Long term exposure limit (8 hours) (mg/m^3): 10
Short term exposure limit (15 minutes) (mg/m^3): 20
The Occupational Health and Safety Regulations, 2020, Chapter S15.1 Reg 10.

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

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	EN166	

Type	Standards
such as NIOSH (US) or EN 166(EU).	

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state
Liquid

Colour
Clear

Odour
No data available.

Odour threshold (ppm)
No data available.

pH
7.2

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

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 toxicological effects

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

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

Serious eye damage/irritation
Causes serious eye irritation.

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
Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure 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
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
Glycerol is listed
Poly(oxy-1,2-ethanediyl), α-[(1,1,3,3-tetramethylbutyl)phenyl]-ω-hydroxy- 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

H302, Harmful if swallowed.
H318, Causes serious eye damage.

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

Eric Torres

SDS date

2026-10-21

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

TUNEL Equilibration Buffer

SECTION 1: Identification

1.1. Product identifier

Trade name

TUNEL Equilibration Buffer

Other names / Synonyms

99965: TUNEL Equilibration Buffer, 5 mL

Product no.

99965

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

2026-10-20

SDS Version

1.0

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

Skin Sens. 1; H317, May cause an allergic skin reaction.
Carc. 1B; H350i, May cause cancer by inhalation.
Repr. 1B; H360Fd, May damage fertility. Suspected of damaging the unborn child.

2.2. Label elements

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

May cause an allergic skin reaction. (H317)
May cause cancer by inhalation. (H350i)
May damage fertility. Suspected of damaging the unborn child. (H360Fd)

Precautionary statement(s)

General

Not applicable.

Prevention

Obtain special instructions before use. (P201)
Avoid breathing mist/vapour. (P261)
Contaminated work clothing should not be allowed out of the workplace. (P272)
Wear eye protection/face protection/protective gloves. (P280)

Response

IF exposed or concerned: Get medical advice/attention. (P308+P313)
If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
Take off contaminated clothing and wash it before reuse. (P362+P364)

Storage

Not applicable.

Disposal

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

Hazardous substances

cobalt dichloride

Additional labelling

Restricted to professional users.

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
Dimethylarsinic acid		CAS No.: 75-60-5	3-5%	Acute Tox. 3, H301 Acute Tox. 3, H331	
cobalt dichloride		CAS No.: 7646-79-9	<0.25%	Acute Tox. 4, H302 Skin Sens. 1, H317 Eye Dam. 1, H318 Resp. Sens. 1B, H334 Muta. 2, H341 Carc. 1B, H350i (C ≥	

	0.01%) Repr. 1B, H360Fd

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.

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 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

Sensitisation: This product contains substances, which may trigger allergic reaction upon dermal contact.

Manifestation of allergic reactions typically takes place within 12-72 hours after exposure.

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

IF exposed or concerned:

Get immediate medical advice/attention.

Information to medics

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

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Not applicable.

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:

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.
Contaminated areas may be slippery.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

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

Freezer -10°C to -35°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

Do not recirculate outlet air that contain the substances.
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
Pink
Odour
No data available.
Odour threshold (ppm)
No data available.
pH
6.6
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
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 toxicological effects

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

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
May cause an allergic skin reaction.

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

Carcinogenicity
May cause cancer by inhalation.

Reproductive toxicity
May damage fertility. Suspected of damaging the unborn child.

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
Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.

Other information
Dimethylarsinic acid has been classified by IARC as a group 2B.
cobalt dichloride has been classified by IARC as a group 2A.

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

Dimethylarsinic acid is listed with EPA Hazardous Waste Number: U136

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

Dimethylarsinic acid is listed

DSL

cobalt dichloride 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.
H302, Harmful if swallowed.
H317, May cause an allergic skin reaction.
H318, Causes serious eye damage.
H331, Toxic if inhaled.
H334, May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341, Suspected of causing genetic defects.
H350i, May cause cancer by inhalation.
H360Fd, May damage fertility. Suspected of damaging the unborn child.

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

2026-10-20

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