

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 600121
Product Name: CFSE Stock Solution
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

Flammable Liquids, Category 4

Skin Corrosion/Irritation, Category 3

2.2 Label Elements:

GHS Signal Word: **Warning**

GHS Hazard Phrases:

H227: Combustible liquid.

H316: Causes mild skin irritation.

GHS Precaution Phrases:

P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.

P280: Wear {heat/sparks/open flames/hot surfaces}.

GHS Response Phrases:

P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health

Causes mild skin irritation.

Effects and Symptoms:

DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.

DMSO is readily absorbed through skin.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion, or skin absorption.

May cause respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
150347-59-4 NA	5(6)-carboxyfluorescein diacetate, NHS ester	0.0 -5.0 %	822-952-3 NA	Skin Corr. 2: H315 Eye Damage 2: H319 STOT (SE) 3: H335
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous 01-2119431362-50	>95.0 %	200-664-3 NA	Flam. Liq. 4: H227

Section 4. First Aid Measures

4.1 Description of First Aid
Measures:

- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Exposure may cause: hematuria or shortness of breath (dyspnea).
 Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness.
 Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards: Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.

Container explosion may occur under fire conditions.

Emits toxic fumes under fire conditions.

Sensitive to static discharge.

Hazardous Combustion Products: Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.

Container explosion may occur under fire conditions.

Emits toxic fumes under fire conditions.

Sensitive to static discharge.

Vapors can travel to a source of ignition and flash back.

Flash Pt: 89.00 C Method Used: Closed Cup

Explosive Limits: LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C

Autoignition Pt: 215.00 C

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Note: Combustible as diluted in dimethyl sulfoxide.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame. Keep container tightly closed. Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

- 8.1 Exposure Parameters:**
- 8.2 Exposure Controls:**
- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling. No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: A solution in DMSO

pH: No data.

Melting Point: No data.

Boiling Point: No data.

Flash Pt: 89.00 C Method Used: Closed Cup

Evaporation Rate: No data.

Flammability (solid, gas): No data available.

Explosive Limits: LEL: 3.5% at 25.0 C UEL: 42% at 25.0 C

Vapor Pressure (vs. Air or mm Hg): 0.37 MM_HG at 20.0 C

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Octanol/Water Partition Coefficient: No data.

Autoignition Pt: 215.00 C

Decomposition Temperature: No data.

Viscosity: No data.

9.2 Other Information

Percent Volatile: No data.

Molecular Formula & Weight: C29H19NO11 557.5

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [] Stable [X]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.

Polymerization: Will occur [] Will not occur [X]

10.4 Conditions To Avoid: heat, flames, and sparks

10.5 Incompatibility - Materials To Avoid: acid chlorides
phosphorus halides
strong acids
strong oxidizing agents
strong reducing agents

10.6 Hazardous Decomposition or Byproducts: carbon monoxide
carbon dioxide
sulfur oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m³ (4h);
DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;

Chronic Toxicological Effects: DMSO - Investigated as a drug, mutagen, primary irritant, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
DMSO RTECS Number: PV6210000

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
150347-59-4	5(6)-carboxyfluorescein diacetate, NHS ester	n.a.	n.a.	n.a.	n.a.
67-68-5	Dimethyl sulfoxide, anhydrous	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Combustible liquid, n.o.s. (dimethyl sulfoxide)
DOT Hazard Class:
UN/NA Number: NA1993 **Packing Group:** III

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Not dangerous goods.
UN Number: 1993 **Packing Group:** III
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.
When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
150347-59-4	5(6)-carboxyfluorescein diacetate, NHS ester	No	No	No
67-68-5	Dimethyl sulfoxide, anhydrous	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
150347-59-4	5(6)-carboxyfluorescein diacetate, NHS ester	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
67-68-5	Dimethyl sulfoxide, anhydrous	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/12/2018

Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 601771
Product Name: CytoTell™ Blue Stock Solution
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
Flammable Liquids, Category 4
- 2.2 Label Elements:**
- GHS Signal Word:** **Warning**
- GHS Hazard Phrases:**
 H227: Combustible liquid.
- GHS Precaution Phrases:**
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
- GHS Response Phrases:**
 No phrases apply.
- GHS Storage and Disposal Phrases:**
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.3 Adverse Human Health Effects and Symptoms:** DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.
 DMSO is readily absorbed through skin.
 Material may be irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	CytoTell™ Blue Stock Solution	< 0.1 %	NA NA	No data available.
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous 01-2119431362-50	99.9 %	200-664-3 NA	Flam. Liq. 4: H227

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** Exposure may cause: hematuria or shortness of breath (dyspnea).
Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness.
Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
Container explosion may occur under fire conditions.
Emits toxic fumes under fire conditions.
Sensitive to static discharge.
Vapors can travel to a source of ignition and flash back.
No data available.
- Flash Pt:** 89.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
- Autoignition Pt:** 215.00 C
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Note: Combustible as diluted in dimethyl sulfoxide

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation.
As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.
 Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame.
 Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

- 8.1 Exposure Parameters:**
- 8.2 Exposure Controls:**
- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

- 9.1 Information on Basic Physical and Chemical Properties**
- Physical States:** [] Gas [X] Liquid [] Solid
- Appearance and Odor:** A solution in DMSO
- pH:** No data.
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** 89.00 C Method Used: Closed Cup
- Evaporation Rate:** No data.
- Flammability (solid, gas):** No data available.
- Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
- Vapor Pressure (vs. Air or mm Hg):** No data.
- Vapor Density (vs. Air = 1):** No data.
- Specific Gravity (Water = 1):** No data.
- Solubility in Water:** No data.
- Octanol/Water Partition Coefficient:** No data.

Autoignition Pt:	215.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
9.2 Other Information	
Percent Volatile:	No data.

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	acid chlorides phosphorus halides strong acids strong oxidizing agents strong reducing agents
10.6 Hazardous Decomposition or Byproducts:	carbon monoxide carbon dioxide sulfur oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:	The toxicological effects of this product have not been thoroughly studied. DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m3 (4h); DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;
Chronic Toxicological Effects:	DMSO - Investigated as a drug, mutagen, primary irritant, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. DMSO RTECS Number: PV6210000
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	CytoTell™ Blue Stock Solution	n.a.	n.a.	n.a.	n.a.
67-68-5	Dimethyl sulfoxide, anhydrous	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability:	No data available.
12.3 Bioaccumulative Potential:	No data available.
12.4 Mobility in Soil:	No data available.
12.5 Results of PBT and vPvB assessment:	No data available.
12.6 Other adverse effects:	No data available.



SAFETY DATA SHEET

CytoTell™ Blue Stock Solution

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Combustible liquid, n.o.s. (Dimethyl sulfoxide)

DOT Hazard Class:

UN/NA Number: NA1993 **Packing Group:** III

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Not dangerous goods.

UN Number: 1993 **Packing Group:** III

Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	CytoTell™ Blue Stock Solution	No	No	No
67-68-5	Dimethyl sulfoxide, anhydrous	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	CytoTell™ Blue Stock Solution	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
67-68-5	Dimethyl sulfoxide, anhydrous	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/12/2018

Additional Information About This Product: No data available.

Company Policy or Disclaimer:

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 601772
Product Name: Staurosporine Apoptosis Inducer
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

Flammable Liquids, Category 4

2.2 Label Elements:

GHS Signal Word: **Warning**

GHS Hazard Phrases:

H227: Combustible liquid.

GHS Precaution Phrases:

P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases:

No phrases apply.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health DMSO has the potential to carry toxic materials or materials of unknown toxicity into the body.

Effects and Symptoms: DMSO is readily absorbed through skin.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
62996-74-1 KC6550000	Staurosporine	0.05 %	613-127-7 NA	Mutagen 1B: H340 Carcinogen 1B: H350
67-68-5 PV6210000	Dimethyl sulfoxide, anhydrous 01-2119431362-50	99.95 %	200-664-3 NA	Flam. Liq. 4: H227

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** Exposure may cause: hematuria or shortness of breath (dyspnea).
Exposure may cause: gastrointestinal irritation with nausea, vomiting, diarrhea, headache, dizziness, and drowsiness.
Eye contact may cause blurry vision, burning sensation, redness, tearing, and vasodilation.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
Container explosion may occur under fire conditions.
Emits toxic fumes under fire conditions.
Sensitive to static discharge.
Vapors can travel to a source of ignition and flash back.
No data available.
- Flash Pt:** 89.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
- Autoignition Pt:** 215.00 C
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Note: Combustible as diluted in dimethyl sulfoxide

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation.
As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate.
Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.
 Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame.
 Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

- 8.1 Exposure Parameters:**
- 8.2 Exposure Controls:**
- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

- 9.1 Information on Basic Physical and Chemical Properties**
- Physical States:** [] Gas [X] Liquid [] Solid
- Appearance and Odor:** A solution in DMSO
- pH:** No data.
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** 89.00 C Method Used: Closed Cup
- Evaporation Rate:** No data.
- Flammability (solid, gas):** No data available.
- Explosive Limits:** LEL: 3.5% at 25.0 C UEL: 42.0% at 25.0 C
- Vapor Pressure (vs. Air or mm Hg):** No data.
- Vapor Density (vs. Air = 1):** No data.
- Specific Gravity (Water = 1):** No data.
- Solubility in Water:** No data.
- Octanol/Water Partition Coefficient:** No data.

Autoignition Pt:	215.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
9.2 Other Information	
Percent Volatile:	No data.

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	acid chlorides phosphorus halides strong acids strong oxidizing agents strong reducing agents
10.6 Hazardous Decomposition or Byproducts:	carbon monoxide carbon dioxide sulfur oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:	The toxicological effects of this product have not been thoroughly studied. DMSO - Toxicity Data: Oral LD50 (rat): 14,500 mg/kg; Skin LD50 (rat): 40,000 mg/kg; Oral LD50 (mouse): 7,920 mg/kg; Skin LD50 (mouse): 50,000 mg/kg; Skin TDLO (woman): 1,800 mg/kg; Inhalation LC50 (rat): >1,600 mg/m ³ (4h); DMSO - Irritation Data: Eyes (rabbit): 100 mg mild; Skin (rabbit): 500 mg (24h) mild;
Chronic Toxicological Effects:	DMSO - Investigated as a drug, mutagen, primary irritant, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. DMSO RTECS Number: PV6210000
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
62996-74-1	Staurosporine	n.a.	n.a.	n.a.	n.a.
67-68-5	Dimethyl sulfoxide, anhydrous	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity:	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
12.2 Persistence and Degradability:	No data available.
12.3 Bioaccumulative Potential:	No data available.
12.4 Mobility in Soil:	No data available.
12.5 Results of PBT and vPvB assessment:	No data available.
12.6 Other adverse effects:	No data available.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 10009322
Product Name: Cell-Based Assay Buffer Tablet
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
Skin Corrosion/Irritation, Category 3
Serious Eye Damage/Eye Irritation, Category 2
- 2.2 Label Elements:**



GHS Signal Word: **Warning**

GHS Hazard Phrases:

H316: Causes mild skin irritation.

H319: Causes serious eye irritation.

GHS Precaution Phrases:

P264: Wash {hands} thoroughly after handling.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases:

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332+313: If skin irritation occurs, get medical advice/attention.

P337+313: If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

- 2.3 Adverse Human Health** Causes serious eye irritation.
- Effects and Symptoms:** Causes mild skin irritation.
 Material may be irritating to the mucous membranes and upper respiratory tract.
 May be harmful by inhalation, ingestion, or skin absorption.
 May cause respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	Phosphate buffered saline (PBS) tablet	100.0 %	NA NA	No data available.

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards: No data available.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures: Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning Up: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

8.2 Exposure Controls:

8.2.1 Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne (Ventilation etc.): levels below recommended exposure limits.

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Respiratory Equipment NIOSH approved respirator, as conditions warrant.

(Specify Type):

Work/Hygienic/Maintenan Do not take internally.

ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Wash thoroughly after handling.

No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [] Liquid [X] Solid

Appearance and Odor: PBS tablet

pH: 7.4

Melting Point: No data.

Boiling Point: No data.

Flash Pt: No data.

Evaporation Rate: No data.

Flammability (solid, gas): No data available.

Explosive Limits: LEL: No data. UEL: No data.

Vapor Pressure (vs. Air or mm No data.

Hg):

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Solubility Notes: Soluble in: water;

Octanol/Water Partition No data.

Coefficient:

Autoignition Pt: No data.

Decomposition Temperature: No data.

Viscosity: No data.

9.2 Other Information

Percent Volatile: No data.

Section 10. Stability and Reactivity

- 10.1 Reactivity:** No data available.
- 10.2 Stability:** Unstable [] Stable [X]
- 10.3 Stability Note(s):** Stable if stored in accordance with information listed on the product insert.
- Polymerization:** Will occur [] Will not occur [X]
- 10.4 Conditions To Avoid:** No data available.
- 10.5 Incompatibility - Materials To Avoid:** strong acids
strong oxidizing agents
- 10.6 Hazardous Decomposition or Byproducts:** hydrogen chloride gas
phosphorus oxides
potassium oxides
sodium oxides

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	Phosphate buffered saline (PBS) tablet	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.
- 12.2 Persistence and Degradability:** No data available.
- 12.3 Bioaccumulative Potential:** No data available.
- 12.4 Mobility in Soil:** No data available.
- 12.5 Results of PBT and vPvB assessment:** No data available.
- 12.6 Other adverse effects:** No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

- 14.1 LAND TRANSPORT (US DOT):**
- DOT Proper Shipping Name:** Not dangerous goods.
- DOT Hazard Class:**
- UN/NA Number:**
- 14.1 LAND TRANSPORT (European ADR/RID):**
- ADR/RID Shipping Name:** Not dangerous goods.
- UN Number:**
- Hazard Class:**



SAFETY DATA SHEET

Cell-Based Assay Buffer Tablet

Revision: 08/12/2018
Supersedes Revision: 11/20/2017**14.3 AIR TRANSPORT (ICAO/IATA):****ICAO/IATA Shipping Name:** Not dangerous goods.**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Phosphate buffered saline (PBS) tablet	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Phosphate buffered saline (PBS) tablet	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/12/2018**Additional Information About This Product:** No data available.**This Product:****Company Policy or Disclaimer:** DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.