

# Material Safety Data Sheet (MSDS) for cGMP Assay Kit



New 05/10

## I. Identification:

**Product name:** cGMP Assay Kit**Product Catalog:** 4360**CAS number:** None**Manufacturer Supplier:** Cell Signaling Technology

3 Trask Lane

Danvers, MA 01923 USA

1-978-867-2300 TEL

1-978-867-2400 FAX

1-978-578-6737 Emergency Phone

## II. Composition/Information on Ingredients:

**Preparation Name:** cyclic GMP Assay Kit**CAS#:** None

## III. Hazard Identification:

**This product is For Research Use Only.** Please refer to the attached material safety data sheets for information specific to hazards associated with this product:

- Cell Lysis Buffer (CST#9803) MSDS
- TMB (CST#7004)
- STOP Solution (CST#7002)

Based on percentages of hazardous ingredients in all other kit components in this product, all other kit components are not classified as "dangerous" under EU Directives 67/548/EEC or hazardous under US OSHA Hazard Communications regulations 29 CFR 1910.1200.

## IV. First Aid Measures for Hazardous Ingredient:

**Inhalation:** Remove to fresh air. If breathing is difficult, get medical attention.**Ingestion:** If person is conscious, wash out mouth with water. Get medical attention.**Skin contact:** Wash skin with soap and water. If irritation develops or persists, get medical attention.**Eye contact:** Immediately flush eyes with water for at least 15 minutes. Get medical attention.

## V. Fire Fighting Measures:

**Flash Point:** Not applicable.**Autoignition Temperature:** Not applicable.**Explosion:** Not applicable.**Fire extinguishing media:** Water spray, dry chemical, foam, or carbon dioxide.**Firefighting:** : Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.**Specific Hazard:** None.

## VI. Accidental Release Measures:

Wear appropriate personal protective equipment as indicated in Section 8. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

## VII. Handling and Storage:

Store at 4°C in tightly closed container.

Avoid inhalation of vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

## VIII-XIII.

Refer to individual MSDS for kit components for Sections 8-13 information: Exposure Controls/ Personal Protection, Physical and Chemical Properties, Stability and Reactivity, Toxicological Information, Ecological information, Disposal Considerations.

## XIV. Transport Information:

D.O.T. Proper Shipping Name: None. This substance is considered non-hazardous for transport. IATA Proper Shipping Name: None. This substance is considered non-hazardous for air transport.

## XV. Regulatory Information:

EU: Not classified.

OSHA: Not listed.

Canadian DSL: Not listed.

SARA 302, 313: Not listed.

SARA 311/312: Not listed.

Massachusetts Right To Know: Not Listed.

Pennsylvania Right To Know: Not Listed.

New Jersey Right To Know: Not Listed.

California Prop. 65: Not Listed.

## XVI. Other Information:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

# Material Safety Data Sheet (MSDS) for Cell Lysis Buffer (10X)



## I. Identification:

**Product name:** Cell Lysis Buffer (10X)  
**Product Catalog:** 9803  
**CAS number:** Not applicable to mixtures  
**Manufacturer Supplier:** Cell Signaling Technology  
 3 Trask Lane  
 Danvers, MA 01923 USA  
 1-978-867-2300 TEL  
 1-978-867-2400 FAX  
 1-978-578-6737 Emergency Phone

## II. Composition/Information on Ingredients:

**This product is For Research Use Only.** According to 29 CFR 1910.1200(d), mixtures with hazardous ingredients at less than <1% and carcinogens at less than <0.1% are considered non-hazardous.

### Hazardous Reagent: 20X LumiGLO

Ingredient	Percent	CAS#
Triton X-100 (polyethylene glycol octylphenol ether)	1%	9002-93-1

## III. Hazard Identification:

!! CAUTION: This product is not for use in humans. It is intended for research purposes only. To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been established.

### Emergency Overview :

Harmful by Ingestion. Irritant.

### Potential Health Effects:

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Eye Contact:** Causes eye irritation. Risk of damage to eyes.

**Skin Contact:** May be harmful if absorbed through skin. Causes skin irritation.

**Ingestion:** Harmful if swallowed.

## IV. First Aid Measures for Hazardous Ingredient:

### Triton X-100 (polyethylene glycol octylphenol ether):

**Inhalation:** Remove to fresh air. If breathing is difficult, get medical attention.

**Ingestion: DO NOT INDUCE VOMITING.** If person is conscious, wash out mouth with water. Get medical attention.

**Skin contact:** Wash skin with soap or mild detergent and water for at least 15 minutes. If irritation develops or persists, get medical attention.

**Eye contact:** Immediately flush eyes water for at least 15 minutes. Get medical attention.

## V. Fire Fighting Measures:

**Flash Point:** data not available

**Autoignition Temperature:** data not available

**Explosion:** data not available

**Fire extinguishing media:** water spray, dry chemical, foam, or carbon dioxide.

**Firefighting:** wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes. May emit toxic fumes under fire conditions.

## VI. Accidental Release Measures:

Wear appropriate personal protective equipment as indicated in Section 8. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

## VII. Handling and Storage:

Store at 4°C in tightly closed container.

Avoid inhalation of vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

## VIII. Exposure Controls/Personal

**Ventilation System:** a system of local (fume hood) and general exhaust is recommended.

**Skin Protection:** wear compatible chemical resistant gloves and protective clothing.

**Eye protection:** wear chemical safety goggles. Maintain emergency eyewash and shower in work area.

## IX. Physical and Chemical Properties

<b>Appearance:</b>	Colorless liquid
<b>Odor:</b>	Data not available
<b>pH:</b>	Data not available
<b>Boiling Point:</b>	Data not available
<b>Melting or Freezing Point:</b>	Data not available
<b>Flash Point:</b>	Data not available
<b>Volatile Organic Compounds (VOC):</b>	Data not available
<b>Autoignition temp.</b>	Data not available
<b>Solubility (water):</b>	Soluble in water

## X. Stability and Reactivity:

**Stability:** Stable under ordinary conditions.

**Conditions/materials to avoid:** Strong oxidizing agents, strong acids, strong bases

**Hazardous Decomposition:** Carbon monoxide, carbon dioxide.

**Hazardous polymerization:** Will not occur.

## XI. Toxicological Information:

**Acute toxicity:** Data not available

**Chronic exposure:** Data not available

### Potential Health Effects:

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** Harmful if swallowed.

## XII. Ecological Information:

Data not available

## XIII. Disposal Considerations:

Dispose of in accordance with federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

## XIV. Transport Information:

D.O.T. Proper Shipping Name: None. This substance is considered non-hazardous for transport.

IATA Proper Shipping Name: None. This substance is considered non-hazardous for air transport.

## XV. Regulatory Information:

EU: Not classified

OSHA: Ingredient Triton X100, CAS#9002-93-1: Harmful by ingestion, Irritant

Canadian DSL: Listed: Ingredient Triton X100, CAS#9002-93-1

SARA 302, 313 Ingredients Not Listed.

SARA 311/312: Ingredient Triton X100, CAS#9002-93-1: Acute Health Hazard

Massachusetts Right To Know: Ingredients Not Listed.

Pennsylvania Right To Know: Ingredient Triton X100, CAS#9002-93-1

New Jersey Right To Know: Ingredient Triton X100, CAS#9002-93-1

California Prop. 65: Ingredients Not Listed.

## XVI. Other Information:

This product is for research use only and is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

# Material Safety Data Sheet (MSDS) for STOP Solution

Rev. 5/19/10

## I. Identification:

**Product name:** STOP Solution

**Product Catalog:** 7002

**CAS number:** None

**Manufacturer Supplier:** Cell Signaling Technology  
3 Trask Lane  
Danvers, MA 01923 USA  
1-978-867-2300 TEL  
1-978-867-2400 FAX  
1-978-578-6737 Emergency TEL

## II. Composition/Information on Ingredients:

Ingredient Name	CAS#	%
Proprietary Ingredient	proprietary	100%

## III. Hazard Identification:

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

### Emergency Overview:

**Warning:** Hazardous in case of eye contact and ingestion. May cause eye, skin, and respiratory tract irritation.

**US:** Hazardous according to U.S. OSHA Hazard Communication regulations (29 CFR 1910.1200).

**EU:** Harmful according to European Union Directives Classification (67/548/EEC and 1999/45/EC).

### NFPA Hazard Classification:

Health: 2 Flammability: 0 Reactivity: 0

## IV. First Aid Measures:

**Inhalation:** Remove to fresh air. If breathing is difficult, get medical attention.

**Ingestion:** If person is conscious, wash out mouth with water. Get medical attention.

**Skin exposure:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing. Seek medical attention if irritation develops.

**Eye exposure:** Immediately flush eyes with water for at least 15 minutes, lifting the upper and lower lids to assure adequate flushing. Seek medical attention if irritation develops.

## V. Fire Fighting Measures:

**Flash Point:** N/A

**Autoignition Temperature:** N/A

**Explosion:** N/A

**Fire extinguishing media:** water spray, dry chemical, alcohol foam, or carbon dioxide.

**Firefighting:** wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

## VI. Accidental Release Measures:

Wear appropriate personal protective equipment as indicated in Section VIII. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

## VII. Handling And Storage:

Store in cool dry environment (25°C). Keep lid tightly closed.

Avoid elevated temperatures.

Avoid contact with eyes, skin, and clothing, wash thoroughly after handling.

## VIII. Exposure Controls/Personal:

**OSHA Hazardous Components:** This product contains no substances with occupational exposure limits.

**Ventilation System:** a system of local and/or general exhaust is recommended.

**Skin Protection:** wear compatible chemical resistant gloves and protective clothing.

**Eye protection:** wear protective safety glasses or chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

## IX. Physical And Chemical Properties:

<b>Appearance:</b>	clear liquid
<b>Odor:</b>	none
<b>Boiling Point:</b>	no data available
<b>Melting Point:</b>	no data available
<b>Freezing Point:</b>	no data available
<b>Volatile Organic Compounds (VOC):</b>	no data available
<b>Autoignition temperature:</b>	no data available
<b>Flammability:</b>	Not flammable
<b>Oxidizing Properties:</b>	Not an oxidizer
<b>Specific Gravity:</b>	data not available
<b>pH:</b>	>2.00
<b>Solubility:</b>	soluble in water

## X. Stability and Reactivity:

**Stability:** Chemically stable under ordinary conditions of usage.

**Conditions to avoid:** Heat.

**Materials to avoid:** Strong oxidizing agents, reducing agents, bases.

**Hazardous Decomposition:** Carbon monoxide, carbon dioxide.

**Hazardous polymerization:** Will not occur.

## XI. Toxicological Information:

No component of this product presents at level greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

### Proprietary Ingredient:

Acute Oral Toxicity (LD50):	2400 mg/kg, mouse 708 mg/kg, rat
Acute Skin Toxicity (LD50):	1560 mg/kg, rabbit
Inhalation (LC50):	>720mg/m <sup>3</sup> /1H, rat

## XII. Ecological Information: No data available.

**XIII. Disposal Considerations:** Dispose of in accordance with federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

## XIV. Transport Information:

D.O.T.

Proper Shipping Name: None

This substance is considered non-hazardous for transport.

IATA

Proper Shipping Name: None

This substance is considered non-hazardous for air transport.

## XV. Regulatory Information:

US Regulatory Information:

SARA Listed: No

Canada (WHMIS): DSL No, NDSL No.

EU Classification:

Hazard Code: Xn = Harmful

Risk Statement: 22: Harmful if swallowed

36/37/38 = Irritating to eyes, skin, respiratory tract

Safety Statement: 26 = In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

28 = After contact with skin, wash immediately with plenty of water

37 = Wear suitable gloves

## XVI. Other Information:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

# Material Safety Data Sheet (MSDS) for TMB Substrate Solution

Rev. 05/19/10

## I. Identification:

**Product name:** TMB Substrate Solution  
**Product Catalog:** 7004  
**CAS number:** None  
**Manufacturer Supplier:** Cell Signaling Technology  
 3 Trask Lane  
 Danvers, MA 01923 USA  
 1-978-867-2300 TEL  
 1-978-867-2400 FAX  
 1-978-578-6737 Emergency TEL

## II. Composition/Information on Ingredients:

Ingredient Name	CAS#	%
Water	7732-18-5	>80%
3,3',5,5'-tetramethylbenzidine (non-carcinogenic analog of benzidine)	54827-17-7	>0.05%
Proprietary formulation (non-hazardous)	proprietary	<20%

## III. Hazard Identification:

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Emergency Overview:

Warning: May cause eye, skin, and respiratory tract irritation.

Based on the percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives (67/548/EEC and 1999/45/EC) or hazardous under US OSHA Hazard Communication regulations 29 CFR 1910.1200.

NFPA Hazard Classification: Health: 1 Flammability: 0 Reactivity: 0 Other: 0

## IV. First Aid Measures:

**Inhalation:** Remove to fresh air. If breathing is difficult, get medical attention.

**Ingestion:** If person is conscious, wash out mouth with water. Get medical attention.

**Skin exposure:** Wash skin with soap and water. If irritation develops or persists, get medical attention.

**Eye exposure:** Immediately flush eyes with water for at least 15 minutes. Get medical attention.

## V. Fire Fighting Measures:

**Flash Point:** N/A

**Autoignition Temperature:** N/A

**Explosion:** Not flammable.

**Fire extinguishing media:** Water spray, dry chemical, alcohol foam, or carbon dioxide.

**Firefighting:** Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

## VI. Accidental Release Measures:

Wear appropriate personal protective equipment as indicated in Section VIII. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

## VII. Handling And Storage:

Store at 2°C – 8°C in tightly closed container.

Avoid light and elevated temperatures.

Avoid contact with eyes, skin, and clothing, wash thoroughly after handling.

## VIII. Exposure Controls/Personal:

**Ventilation System:** a system of local and/or general exhaust is recommended.

**Skin Protection:** wear compatible chemical resistant gloves and protective clothing.

**Eye protection:** wear protective safety glasses or chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

## IX. Physical And Chemical Properties:

<b>Appearance:</b>	clear to light yellow liquid
<b>Odor:</b>	none
<b>Boiling Point:</b>	no data available
<b>Melting Point:</b>	no data available
<b>Freezing Point:</b>	no data available
<b>Volatile Organic Compounds (VOC):</b>	no data available
<b>Autoignition temp.</b>	no data available
<b>Flammability</b>	not flammable
<b>Oxidizing Properties</b>	not an oxidizer
<b>Specific Gravity:</b>	1.010 (H <sub>2</sub> O = 1.0)
<b>pH:</b>	3.35-3.75
<b>Solubility:</b>	soluble in water

## X. Stability and Reactivity:

**Stability:** Chemically stable under ordinary conditions of usage.

**Conditions to avoid:** Light, elevated temperatures and moisture.

**Materials to avoid:** Strong oxidizing agents and metals.

**Hazardous Decomposition:** May lead to carbon monoxide, carbon dioxide and nitrogen oxide.

**Hazardous polymerization:** Will not occur.

## XI. Toxicological Information:

To the best of our knowledge, the chemical, physical, and toxicological properties of this buffer solution have not been thoroughly investigated.

**Routes of Exposure:** Unknown at this time. Avoid ingestion, inhalation, contact with skin, eyes.

**Signs and Symptoms of Exposure:** Unknown at this time.

## XII. Ecological Information:

No data available.

**XIII. Disposal Considerations:** Dispose of in accordance with federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

## XIV. Transport Information:

D.O.T.

Proper Shipping Name: None

This substance is considered non-hazardous for transport.

IATA

Proper Shipping Name: None

This substance is considered non-hazardous for air transport.

## XV. Regulatory Information:

US Regulatory Information:

SARA Listed: No

Canada (WHMIS): DSL No, NDSL No.

EU Regulations Information: Not available for this chemical substance.

EU Classification: (FOR 3,3',5,5'-tetramethylbenzidine, CAS#54827-17-7)

Hazard Code: Xi = Irritant

Risk Statement: 36-38 = Irritating to eyes, respiratory system and skin.

## XVI. Other Information:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.