

## Safety Data Sheet

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

#### Identification of the substance or mixture

**Product code** E33075COMPONENTA  
**Product name** SYBR® Green EMSA nucleic acid gel stain

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials** Within the USA + Canada: 1-800-424-9300 and +1 [or Dangerous Goods] Incident. Spill, Leak, Fire, 703-527-3887  
Exposure, or Accident. Call CHEMTREC Outside the USA + Canada: +1 703-741-5970

#### **Country Specific Emergency Number (if available):**

CHEMTREC Brazil (Rio De Janeiro) +(55)-2139581449 (português)

**For Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS - Classification

**Signal Word**  
WARNING

#### **Hazard pictograms**

None

**Health hazards**  
Not Hazardous

#### **Physical hazards**

GHS Physical Hazard	Flammable liquids
GHS Physical Hazard Category Number	Category 4

**Environmental hazards**  
Not Hazardous

**Hazard Statements**

H227 - Combustible liquid

**Precautionary Statements****Prevention**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

**Storage**

P403 - Store in a well-ventilated place

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Other hazards**

Not Applicable

**HMIS**

Health	1
Flammability	2
Reactivity	0

**SECTION 3: Composition/information on ingredients**

Component	CAS-No	EINECS-No	Weight %
dimethylsulfoxide 67-68-5 ( 95-100 )	67-68-5	200-664-3	95-100

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

<b>Skin contact</b>	Rinse with plenty of water . Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>Inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Notes to Physician</b>	Treat symptomatically.

### Most important symptoms and effects, both acute and delayed

H227 - Combustible liquid

### Indication of any immediate medical attention and special treatment needed

None.

## SECTION 5: Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
<b>Unsuitable extinguishing media</b>	No information available.

### Special hazards arising from the substance or mixture

### Advice for fire-fighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area)

Use personal protection equipment

See Section 8 for more detail.

### Environmental precautions

No special environmental precautions required.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
dimethylsulfoxide	None	None	None	None

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

**Respiratory protection** In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

**Hand protection** Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

**Eye protection** Tight sealing safety goggles.

**Skin and Body Protection** Wear suitable protective clothing.

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice

#### Environmental exposure controls

No special environmental precautions required.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	liquid	
<b>Odor</b>	No data available	
<b>pH</b>	6-8	
<b>Melting point / melting range</b>	°C 18 - 19	°F 64.4 - 66.2
<b>Boiling point / boiling range</b>	°C 188 - 190	°F 370 - 374
<b>Flash point</b>	°C 87 - 89	°F 188.6 - 192.2
<b>Autoignition Temperature</b>	°C 214 - 216	°F 417.2 - 420.8
<b>Decomposition temperature</b>	°C Mixture has not been tested	°F Mixture has not been tested
<b>Evaporation rate</b>	No data available	
<b>Flammability (solid, gas)</b>	No data available	
<b>Upper explosion limit</b>	61% - 64%	
<b>Lower explosion limit</b>	2.4% - 2.8%	
<b>Vapor Pressure</b>	Mixture has not been tested	
<b>Relative density</b>	Mixture has not been tested	
<b>Specific gravity</b>	No data available	
<b>Solubility</b>	No data available	
<b>Partition coefficient:</b>	No data available	
<b>n-octanol/water</b>		
<b>Explosive properties</b>	Mixture has not been tested	

### Other information

No data available.

## SECTION 10: Stability and reactivity

<b>Reactivity</b>	None known.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported.
<b>Conditions to avoid</b>	No information available.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No data available.

## SECTION 11: Toxicological information

### Information on toxicological effects

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
dimethylsulfoxide	14500 mg/kg Oral LD50	>40000 mg/kg bw	>5000 mg/l

### Principal Routes of Exposure

<b>Irritation</b>	Mild skin irritant. Mild eye irritation. Components of the product may be absorbed into the body through the skin.
<b>Corrosivity</b>	Conclusive but not sufficient for classification
<b>Sensitization</b>	Conclusive but not sufficient for classification
<b>STOT - Single Exposure</b>	Conclusive but not sufficient for classification
<b>STOT - Repeated Exposure</b>	Conclusive but not sufficient for classification
<b>Carcinogenicity</b>	Conclusive but not sufficient for classification
<b>Mutagenicity</b>	Conclusive but not sufficient for classification
<b>Reproductive toxicity</b>	Conclusive but not sufficient for classification
<b>Aspiration hazard</b>	Conclusive but not sufficient for classification

## SECTION 12: Ecological information

### Toxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
dimethylsulfoxide	Skeletonema costatum EC5012350 - 25500 mg/L (96 h)	Daphnia species EC50=7000 mg/L (24 h)	No data available	No data available	logPow-2.03

**Persistence and degradability** Inherently biodegradable.

**Bioaccumulative potential** Material does not bioaccumulate.

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other adverse effects** No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not classified as dangerous in the meaning of transport regulations.

**UN number**

Not Applicable

**UN proper shipping name**

Not Applicable

**Transport hazard class(es)**

Not Applicable

**Packing group**

Not Applicable

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

## SECTION 15: Regulatory information

Component	US TSCA
dimethylsulfoxide 67-68-5 ( 95-100 )	Listed

### US Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain HAPs.

### US State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **WHMIS Hazard Class**

B3 - Combustible liquid



This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

**Revision number** 2

**Revision date** 18-Dec-2017

For Research Use Only. Not for use in diagnostic procedures.

#### **References**

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

# SAFETY DATA SHEET

## 1. Identification of the substance/mixture and of the company/undertaking

### Identification of the substance/preparation

**Product code** E33075COMPONENTB  
**Product name** SYPRO® Ruby EMSA protein gel stain

### Company/Undertaking Identification

Life Technologies  
5791 VAN ALLEN WAY  
PO BOX 6482  
CARLSBAD, CA 92008  
+1 760 603 7200

INVITROGEN CORPORATION  
5250 MAINWAY DRIVE  
BURLINGTON, ONT  
CANADA L7L 6A4  
800/263-6236

### **24 hour Emergency Response:**

866-536-0631  
301-431-8585  
Outside of the U.S. +1-301-431-8585

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

## 2. Hazards identification

### GHS - Classification

**Signal Word**  
not hazardous

**Health Hazard**  
not hazardous

**Physical Hazards**  
not hazardous

### Principle Routes of Exposure/ Potential Health effects

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.

**Specific effects**

<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none

**Target Organ Effects**

No known effects under normal use conditions.

**HMIS**

Health	0
Flammability	0
Reactivity	0

### 3. Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

### 4. First aid measures

<b>Skin contact</b>	Rinse with plenty of water. If symptoms arise, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Notes to physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit.

### 6. Accidental release measures

<b>Personal precautions</b>	Use personal protective equipment.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material.

### Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for additional information.

### 7. Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advice required.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

### Exposure limits

We are not aware of any national exposure limit.

<b>Engineering measures</b>	Ensure adequate ventilation, especially in confined areas.
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### **Personal protective equipment**

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment.

<b>Hand protection</b>	Impervious gloves.
<b>Eye protection</b>	Safety glasses with side-shields.
<b>Skin and body protection.</b>	Lightweight protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

<b>Environmental exposure controls</b>	Prevent product from entering drains.
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## 9. Physical and chemical properties

### General Information

<b>Form</b>	liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Boiling Point/Range</b>	°C no data available
<b>Melting point/range</b>	°C no data available
<b>Flash point</b>	°C no data available
<b>Autoignition temperature</b>	°C no data available
<b>Oxidizing properties</b>	No information available.
<b>Water solubility</b>	soluble

## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions.
<b>Materials to avoid</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	None under normal use
<b>polymerization</b>	Hazardous polymerisation does not occur.

## 11. Toxicological information

### Acute toxicity

not hazardous

**Principle Routes of Exposure/  
Potential Health effects**

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none
<b>Target Organ Effects</b>	No known effects under normal use conditions.

**12. Ecological information**

<b>Ecotoxicity effects</b>	No information available.
<b>Mobility</b>	No information available.
<b>Biodegradation</b>	Inherently biodegradable
<b>Bioaccumulation</b>	Does not bioaccumulate.

**13. Disposal considerations**

Dispose of in accordance with local regulations.

**14. Transport information**

**IATA**

<b>Proper shipping name</b>	Not classified as dangerous in the meaning of transport regulations
<b>Hazard class</b>	none
<b>Subsidiary Class</b>	none
<b>Packing group</b>	none
<b>UN-No</b>	None

## 15. Regulatory information

### U.S. Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain HAPs.

### U.S. State Regulations

#### **California Proposition 65**

This product does not contain chemicals listed under Proposition 65

#### **WHMIS Hazard Class**

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## 16. Other information

#### **Reason for Revision**

(M)SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

**End of Safety Data Sheet**

## Safety Data Sheet

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

#### Identification of the substance or mixture

Product code E33075COMPONENTC  
Product name TRICHLOROACETIC ACID (TCA)

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials** Within the USA + Canada: 1-800-424-9300 and  
[or Dangerous Goods] Incident. Spill, Leak, Fire, 1-703-527-3887  
Exposure, or Accident. Call CHEMTREC Outside the USA + Canada: 1-703-741-5970

#### **Country Specific Emergency Number (if available):**

**For research use only. Not for use in diagnostic procedures**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
DANGER

#### **Hazard pictograms**





### Health hazards

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (STOT) – single exposure	Category 3

### Physical hazards

Not Hazardous

### Environmental hazards

Acute aquatic hazard	Category 1
Chronic aquatic hazard	Category 1

### Hazard Statements

H314 - Causes severe skin burns and eye damage  
H410 - Very toxic to aquatic life with long lasting effects  
H335 - May cause respiratory irritation

### Precautionary Statements

#### Prevention

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P264 - Wash hands thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area

#### Response

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P391 - Collect spillage  
P310 - Immediately call a POISON CENTER or doctor/physician

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Other hazards

Not Applicable

### HMIS

Health	3
Flammability	0

Reactivity	0
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### SECTION 3: Composition/information on ingredients

Component	CAS No.	Common name	EINECS-No	Weight-%
Trichloroacetic acid 76-03-9 ( 98-100 )	76-03-9	-	200-927-2	98-100

We recommend handling all chemicals with caution.

### SECTION 4: First aid measures

#### Description of first aid measures

<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.
<b>Notes to Physician</b>	Treat symptomatically.

#### Most important symptoms and effects, both acute and delayed

H314 - Causes severe skin burns and eye damage H410 - Very toxic to aquatic life with long lasting effects H335 - May cause respiratory irritation

#### Indication of any immediate medical attention and special treatment needed

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

### SECTION 5: Firefighting measures

#### Extinguishing media

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b>Unsuitable extinguishing media</b>	No information available.

#### Special hazards arising from the substance or mixture

None known

#### Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Avoid contact with skin, eyes or clothing  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains.

### Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Always wear recommended Personal Protective Equipment. See section 8 for more information. Do not get in eyes, on skin, or on clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Trichloroacetic acid	None	None	0.5 ppm	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Trichloroacetic acid	None	None	None

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

**Respiratory protection** In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

**Hand protection** Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

<b>Eye protection</b>	Tight sealing safety goggles.
<b>Skin and Body Protection</b>	Wear laboratory coat for body protection.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice
<b>Environmental exposure controls</b>	
Prevent product from entering drains.	

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Solid			
<b>Odor</b>	No data			
<b>Odor Threshold</b>	No data			
<b>Molecular Weight</b>	No data			
<b>pH</b>	No data			
<b>Melting point / melting range</b>	°C	No data	°F	No data
<b>Boiling point / boiling range</b>	°C	No data	°F	No data
<b>Flash point</b>	°C	No data	°F	No data
<b>Autoignition Temperature</b>	°C	No data	°F	No data
<b>Decomposition temperature</b>	°C	No data	°F	No data
<b>Evaporation rate</b>	No data			
<b>Flammability (solid, gas)</b>	No data			
<b>Upper explosion limit</b>	No data			
<b>Lower explosion limit</b>	No data			
<b>Vapor Pressure</b>	No data			
<b>Vapor density</b>	No data			
<b>Relative density</b>	No data			
<b>Specific gravity</b>	No data			
<b>Solubility</b>	No data			
<b>Partition coefficient:</b>	No data			
<b>n-octanol/water</b>	No data			
<b>Viscosity</b>	No data			
<b>Explosive properties</b>	No data			
<b>Oxidizing properties</b>	No data			

### Other information

No data.

## SECTION 10: Stability and reactivity

<b>Reactivity</b>	None known.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported.
<b>Conditions to avoid</b>	Oxidizing agent.
<b>Incompatible materials</b>	Flammable liquid. Flammable solids. Bases. Oxidizer.
<b>Hazardous decomposition products</b>	No known hazardous decomposition products.

## SECTION 11: Toxicological information

### Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroacetic acid	= 3320 mg/kg (Rat)	No data available	No data available

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Causes severe burns

**Serious eye damage/irritation** Causes serious eye damage

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** May cause respiratory irritation

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Ecotoxicity

Hazardous to the Aquatic Environment.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Trichloroacetic acid	No data available	No data available	No data available	No data available	No data available

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Classified as dangerous in the meaning of transport regulations

<b>UN number</b>	1839
<b>UN proper shipping name</b>	Trichloroacetic acid
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II

### Environmental hazards

Not Hazardous

### Special precautions for user

Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

## SECTION 15: Regulatory information

Component	US TSCA
Trichloroacetic acid 76-03-9 ( 98-100 )	Listed

### US Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain HAPs

### US State Regulations

#### **California Proposition 65**

This product contains the following Proposition 65 chemicals:.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>Category</u>
Trichloroacetic acid	76-03-9	98-100	Carcinogen

#### WHMIS Hazard Class

E - Corrosive material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

### National Regulations - Brazil

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u>	<u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u>
Trichloroacetic acid	76-03-9	Not Listed	Group 2B

## SECTION 16: Other information

**Reason for revision** SDS sections updated.

**Revision number** 6

**Revision date** 26-Dec-2019

For research use only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be

used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

# SAFETY DATA SHEET

## 1. Identification of the substance/mixture and of the company/undertaking

### Identification of the substance/preparation

**Product code** E33075COMPONENTD  
**Product name** 6X EMSA gel-loading solution

### Company/Undertaking Identification

Life Technologies  
5791 VAN ALLEN WAY  
PO BOX 6482  
CARLSBAD, CA 92008  
+1 760 603 7200

INVITROGEN CORPORATION  
5250 MAINWAY DRIVE  
BURLINGTON, ONT  
CANADA L7L 6A4  
800/263-6236

### **24 hour Emergency Response:**

866-536-0631  
301-431-8585  
Outside of the U.S. +1-301-431-8585

**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

## 2. Hazards identification

### GHS - Classification

**Signal Word**  
not hazardous

**Health Hazard**  
not hazardous

**Physical Hazards**  
not hazardous

### Principle Routes of Exposure/ Potential Health effects

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.

**Specific effects**

<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none

**Target Organ Effects**

No known effects under normal use conditions.

**HMIS**

Health	0
Flammability	0
Reactivity	0

### 3. Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

### 4. First aid measures

<b>Skin contact</b>	Rinse with plenty of water. If symptoms arise, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Notes to physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit.

### 6. Accidental release measures

<b>Personal precautions</b>	Use personal protective equipment.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material.

### Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for additional information.

### 7. Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advice required.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

### Exposure limits

We are not aware of any national exposure limit.

<b>Engineering measures</b>	Ensure adequate ventilation, especially in confined areas.
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### **Personal protective equipment**

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment.

<b>Hand protection</b>	Impervious gloves.
<b>Eye protection</b>	Safety glasses with side-shields.
<b>Skin and body protection.</b>	Lightweight protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

<b>Environmental exposure controls</b>	Prevent product from entering drains.
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## 9. Physical and chemical properties

### General Information

<b>Form</b>	liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Boiling Point/Range</b>	°C no data available
<b>Melting point/range</b>	°C no data available
<b>Flash point</b>	°C no data available
<b>Autoignition temperature</b>	°C no data available
<b>Oxidizing properties</b>	No information available.
<b>Water solubility</b>	soluble

## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions.
<b>Materials to avoid</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	None under normal use
<b>polymerization</b>	Hazardous polymerisation does not occur.

## 11. Toxicological information

### Acute toxicity

not hazardous

**Principle Routes of Exposure/  
Potential Health effects**

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none
<b>Target Organ Effects</b>	No known effects under normal use conditions.

**12. Ecological information**

<b>Ecotoxicity effects</b>	No information available.
<b>Mobility</b>	No information available.
<b>Biodegradation</b>	Inherently biodegradable
<b>Bioaccumulation</b>	Does not bioaccumulate.

**13. Disposal considerations**

Dispose of in accordance with local regulations.

**14. Transport information**

**IATA**

<b>Proper shipping name</b>	Not classified as dangerous in the meaning of transport regulations
<b>Hazard class</b>	none
<b>Subsidiary Class</b>	none
<b>Packing group</b>	none
<b>UN-No</b>	None

## 15. Regulatory information

### U.S. Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product does not contain HAPs.

### U.S. State Regulations

#### **California Proposition 65**

This product does not contain chemicals listed under Proposition 65

#### **WHMIS Hazard Class**

Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## 16. Other information

#### **Reason for Revision**

(M)SDS sections updated.

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

## 1. Identification of the substance/mixture and of the company/undertaking

### Identification of the substance/preparation

**Product code** E33075COMPONENTE  
**Product name** 5X binding buffer

### Company/Undertaking Identification

Life Technologies  
5791 VAN ALLEN WAY  
PO BOX 6482  
CARLSBAD, CA 92008  
+1 760 603 7200

INVITROGEN CORPORATION  
5250 MAINWAY DRIVE  
BURLINGTON, ONT  
CANADA L7L 6A4  
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### **24 hour Emergency Response:**

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**For research use only. Not intended for human or animal diagnostic or therapeutic uses.**

## 2. Hazards identification

### GHS - Classification

**Signal Word**  
not hazardous

**Health Hazard**  
not hazardous

**Physical Hazards**  
not hazardous

### Principle Routes of Exposure/ Potential Health effects

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.

**Specific effects**

<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none

**Target Organ Effects**

No known effects under normal use conditions.

**HMIS**

Health	0
Flammability	0
Reactivity	0

### 3. Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

### 4. First aid measures

<b>Skin contact</b>	Rinse with plenty of water. If symptoms arise, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Notes to physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit.

### 6. Accidental release measures

<b>Personal precautions</b>	Use personal protective equipment.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material.

### Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for additional information.

### 7. Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advice required.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

### Exposure limits

We are not aware of any national exposure limit.

<b>Engineering measures</b>	Ensure adequate ventilation, especially in confined areas.
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### **Personal protective equipment**

Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment.

<b>Hand protection</b>	Impervious gloves.
<b>Eye protection</b>	Safety glasses with side-shields.
<b>Skin and body protection.</b>	Lightweight protective clothing.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

<b>Environmental exposure controls</b>	Prevent product from entering drains.
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## 9. Physical and chemical properties

### General Information

<b>Form</b>	liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Boiling Point/Range</b>	°C no data available
<b>Melting point/range</b>	°C no data available
<b>Flash point</b>	°C no data available
<b>Autoignition temperature</b>	°C no data available
<b>Oxidizing properties</b>	No information available.
<b>Water solubility</b>	soluble

## 10. Stability and reactivity

<b>Stability</b>	Stable under normal conditions.
<b>Materials to avoid</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	None under normal use
<b>polymerization</b>	Hazardous polymerisation does not occur.

## 11. Toxicological information

### Acute toxicity

not hazardous

**Principle Routes of Exposure/  
Potential Health effects**

<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Carcinogenic effects</b>	none
<b>Mutagenic effects</b>	none
<b>Reproductive toxicity</b>	none
<b>Sensitization</b>	none
<b>Target Organ Effects</b>	No known effects under normal use conditions.

**12. Ecological information**

<b>Ecotoxicity effects</b>	No information available.
<b>Mobility</b>	No information available.
<b>Biodegradation</b>	Inherently biodegradable
<b>Bioaccumulation</b>	Does not bioaccumulate.

**13. Disposal considerations**

Dispose of in accordance with local regulations.

**14. Transport information**

**IATA**

<b>Proper shipping name</b>	Not classified as dangerous in the meaning of transport regulations
<b>Hazard class</b>	none
<b>Subsidiary Class</b>	none
<b>Packing group</b>	none
<b>UN-No</b>	None

## 15. Regulatory information

### U.S. Federal Regulations

#### **SARA 313**

This product is not regulated by SARA.

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### U.S. State Regulations

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This product does not contain chemicals listed under Proposition 65

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Non-controlled

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#### **Reason for Revision**

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**End of Safety Data Sheet**