

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)

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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

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

Suitable extinguishing media

Water spray. Carbon dioxide (CO2). Foam. Dry chemical.

Unsuitable extinguishing media

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

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

Other information

No data available.

SECTION 10: Stability and reactivity

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

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

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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

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

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2. Hazards identification

GHS - Classification

Signal Word
 not hazardous

Health Hazard
 not hazardous

Physical Hazards
 not hazardous

Principle Routes of Exposure/ Potential Health effects

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

Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	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

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

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

6. Accidental release measures

Personal precautions	Use personal protective equipment.
Methods for cleaning up	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

Revision Date 20-Jul-2012
Product code E33075COMPONENTB

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Product name SYPRO® Ruby EMSA protein gel stain

Handling	Always wear recommended Personal Protective Equipment. No special handling advice required.
Storage	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.

Engineering measures Ensure adequate ventilation, especially in confined areas.

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.

Hand protection Impervious gloves.

Eye protection Safety glasses with side-shields.

Skin and body protection. Lightweight protective clothing.

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

Environmental exposure controls Prevent product from entering drains.

9. Physical and chemical properties

General Information

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

10. Stability and reactivity

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

11. Toxicological information

Acute toxicity

not hazardous

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

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

12. Ecological information

Ecotoxicity effects	No information available.
Mobility	No information available.
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

13. Disposal considerations

Dispose of in accordance with local regulations.

14. Transport information

IATA

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

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

Country Specific Emergency Number (if available):

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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

Skin contact	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.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical attention if symptoms occur.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.
Notes to Physician	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

Suitable extinguishing media
Unsuitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.
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.

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

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

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

Other information
No data.

SECTION 10: Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	Oxidizing agent.
Incompatible materials	Flammable liquid. Flammable solids. Bases. Oxidizer.
Hazardous decomposition products	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

UN number	1839
UN proper shipping name	Trichloroacetic acid
Transport hazard class(es)	8
Packing group	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

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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>

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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

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
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 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

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2. Hazards identification

GHS - Classification

Signal Word
 not hazardous

Health Hazard
 not hazardous

Physical Hazards
 not hazardous

Principle Routes of Exposure/ Potential Health effects

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

Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	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

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

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

6. Accidental release measures

Personal precautions	Use personal protective equipment.
Methods for cleaning up	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

Handling	Always wear recommended Personal Protective Equipment. No special handling advice required.
Storage	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.

Engineering measures Ensure adequate ventilation, especially in confined areas.

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.

Hand protection Impervious gloves.

Eye protection Safety glasses with side-shields.

Skin and body protection. Lightweight protective clothing.

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

Environmental exposure controls Prevent product from entering drains.

9. Physical and chemical properties

General Information

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

10. Stability and reactivity

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

11. Toxicological information

Acute toxicity

not hazardous

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

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

12. Ecological information

Ecotoxicity effects	No information available.
Mobility	No information available.
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

13. Disposal considerations

Dispose of in accordance with local regulations.

14. Transport information

IATA

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

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
800/263-6236

24 hour Emergency Response: 866-536-0631
301-431-8585
Outside of the U.S. +1-301-431-8585

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2. Hazards identification

GHS - Classification

Signal Word
not hazardous

Health Hazard
not hazardous

Physical Hazards
not hazardous

Principle Routes of Exposure/ Potential Health effects

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

Specific effects

Carcinogenic effects	none
Mutagenic effects	none
Reproductive toxicity	none
Sensitization	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

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

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

6. Accidental release measures

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

Environmental precautions

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See Section 12 for additional information.

7. Handling and storage

Handling	Always wear recommended Personal Protective Equipment. No special handling advice required.
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12. Ecological information

Ecotoxicity effects	No information available.
Mobility	No information available.
Biodegradation	Inherently biodegradable
Bioaccumulation	Does not bioaccumulate.

13. Disposal considerations

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End of Safety Data Sheet