

Safety Data Sheet

TMB SUBSTRATE**EFFECTIVE DATE: 2016-11-24**

1 Product and Company Identification

- 1.1 Product Name:** TMB Substrate
- 1.2 Catalog Number:** 01905, 01906
- 1.3 Product Use:** ELISA
- 1.4 Manufacturer/Supplier:** STEMCELL Technologies
Suite 500-1618 Station Street
Vancouver, British Columbia V6A 1B6 Canada
- 1.5 In Case of Emergency Call:** 1-800-667-0322

2 Hazards Identification

- 2.1 Classification of the substance or mixture**
Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).
- 2.2 Label elements**
Not a hazardous substance or mixture.
- 2.3 Other hazards** No data available

3 Composition / Information on Ingredients

3.1 Substances

Hazardous Components (Chemical Name)	CAS #	Concentration	EC #
3,3',5,5' Tetramethylbenzidine	54827-17-7	<1%	259-364-6
Hydrogen Peroxide (H ₂ O ₂)	7722-84-1	<0.1%	231-765-0

4 First Aid Measures

4.1 Description of first aid measures

4.1.1 If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

4.1.2 In case of skin contact

Wash off with soap and plenty of water.

4.1.3 In case of eye contact

Flush eyes with water as a precaution.

4.1.4 If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

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5 Fire Fighting Measures

5.1 Extinguishing Media

5.1.1 Suitable Extinguishing Media

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

5.1.2 Unsuitable Extinguishing Media

No data available

5.2 Special hazards arising from the substance or mixture

5.2.1 Flammable Properties and Hazards

No data available

5.2.2 Flash Pt

No data available

5.2.3 Autoignition Pt

No data available

5.2.4 Explosive Limits

LEL: No data available

UEL: No data available

5.2.5 Hazardous Combustion Products

Toxic gases and vapors may be released if involved in a fire.

5.3 Fire Fighting Instructions

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

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas.

For personal protection see section 8.

6.2 Environmental precautions

No special environmental precautions required.

7 Handling and Storage

7.1 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Store in amber colored glass or plastic bottles at 2 - 8°C. Not compatible some metal ions, such as iron. Do not use rubber stoppers or caps with rubber rings.

8 Exposure Controls/Personal Protection

8.1 Exposure limits

Contains no substances with occupational exposure limit values.

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8.2 Engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

8.3 Personal protective equipment

8.3.1 Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

8.3.2 Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

8.3.3 Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

8.3.4 General hygiene considerations

General industrial hygiene practice.

8.3.5 Environmental exposure controls

No data available

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Clear to slightly yellow liquid
Odour	Odourless
Odour threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Boiling point/boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Solubility	Soluble in water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	Not self-igniting
Decomposition temperature	No data available
Viscosity	No data available

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10.1 Reactivity	No data available
10.2 Chemical stability	Stable under recommended use and storage conditions.
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to avoid	Elevated temperature
10.5 Incompatible materials	Metal ions such as iron or rubber material
10.6 Hazardous decomposition products	Carbon oxides

11 Toxicological Information**11.1 Acute toxicity**

Oral:	No data available
Inhalation:	No data available
Dermal:	No data available
Other:	No data available

11.2 Skin corrosion/irritation

May cause irritation and redness

11.3 Serious eye damage/eye irritation

May cause irritation and redness

11.4 Respiratory and/or skin sensitization

May cause irritation

11.5 Germ cell mutagenicity

No data available

11.6 Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

No data available

11.9 Specific target organ toxicity - repeated exposure

No data available

11.10 Aspiration hazard

No data available

11.11 Potential health effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

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Ingestion: May be harmful if swallowed.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.

11.12 Signs and symptoms of exposure

Stomach - Irregularities - Based on Human Evidence (Hydrogen peroxide)

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

11.13 RTECS # No data available

12 Ecological Information

12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Other adverse effects	No data available

13 Disposal Considerations

13.1 Waste disposal method
Offer surplus and non-recyclable solutions to a licensed disposal company.

13.2 Contaminated packaging
Dispose of as unused product.

14 Transport Information

14.1 UN number	No data available
14.2 UN proper shipping name	DOT Not dangerous goods ADR/RID Not dangerous goods IMDG Not dangerous goods IATA Not dangerous goods
14.3 Transport hazard class(es)	No data available
14.4 Packing group	No data available
14.5 Environmental hazards	No data available
14.6 Special precautions	No data available

15 Regulatory Information**15.1 USA****SARA 302 Components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312:

Acute Health Hazard

Massachusetts Right To Know Components

Component	CAS #	Revision Date
Hydrogen peroxide	7722-84-1	1993-04-24

Pennsylvania Right To Know Components

Component	CAS #	Revision Date
Hydrogen peroxide	7722-84-1	1993-04-24

New Jersey Right To Know Components

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

15.2 EU

This SDS was prepared in accordance with Regulation (EC) No.1272/2008.

15.3 Canada

Not WHMIS controlled

This SDS was prepared in accordance with Hazardous Products Regulations (HPR) and WHMIS 2015.

16 Other Information

16.1 Prepared by: Quality Control, STEMCELL Technologies Inc.

16.2 Revision: 1_0_0

16.3 Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Safety Data Sheet (SDS) is current as of the Effective Date shown in this document and may be subject to amendment by STEMCELL Technologies Inc.

16.4 Disclaimer: **THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.**