

Material Safety Data Sheet

EPO ELISA TMB Substrate Solution

Cat. No: 01604

1 Product and Company Identification

- 1.1 **Product Name:** EPO ELISA TMB Substrate Solution
1.2 **Catalogue Number:** 01604
1.3 **Synonyms:** None
1.4 **Product Use:** Reagent in EPO ELISA kit (Cat. No. 01630)
1.5 **Manufacturer/Supplier:** StemCell Technologies Inc.
Suite 400, 570 West 7th Avenue
Vancouver, BC V5Z 1B3
Canada
1.6 **In Case of Emergency Call:** 604-877-0713
1.7 **Date Effective:** January 26, 2010
1.8 **Prepared By:** Quality Control

2 Composition / Information on Ingredients

2.1 Component	CAS No.	%W/W
N-Methyl-2-pyrrolidone (M2P)	872-50-4 / 212-828-1	1-<20
Propylene glycol (PG)	57-55-6 / 200-338-0	1-<20

3 Hazards Identification

- 3.1 **Emergency Overview:** This product is a potential irritant to eyes, respiratory system, and skin. This product may also be harmful if ingested.
3.2 **Routes of Exposure:** Absorbed through skin, eye contact, inhalation, and ingestion.
3.3 **Potential Health Effects:**
3.3.1 **Eye:** May irritate and cause redness and pain.
3.3.2 **Skin:** Prolonged contact may cause redness, irritation and dry skin.
3.3.3 **Inhalation:** In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea.
3.3.4 **Ingestion:** May irritate and cause malaise.
3.4 **Chronic Effects/Carcinogenicity:** Not Available
3.4.1 **OSHA Regulatory Status:** In accordance with the OSHA Hazard Communication Standard, at product concentrations, the chemical components listed on this Material Safety Data Sheet are classified as hazardous.

4 First Aid Measures

- 4.1 **Eyes:** Remove victim to nearest source of water, blot excess chemical from face and gently rinse affected eye(s) with clean, lukewarm water for at least 20 minutes. In order to cleanse as much of the eye as possible, be sure to wash under eyelids. If worn, have victim remove contacts. Seek medical attention. If eyes are painful or sensitive to light, protect with a clean, loosely tied handkerchief or towel. Maintain physical and verbal contact with victim.
4.2 **Skin:** Remove victim to nearest source of water. Remove contaminated clothing, blot excess chemical from skin and wash affected area under lukewarm water

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- using a mild soap. Rinse for at least 20 minutes and blot dry. Seek immediate medical attention.
- 4.3 Ingestion:** Remove victim to well-ventilated area. Seek immediate medical attention. If face is blue or breathing is labored, lay victim on back, open and clear airway and give oxygen. Keep victim warm and calm. If unconscious, lay victim on side, loosen tight clothing and monitor vital signs. If conscious, give water and have victim rinse mouth. If vomiting, have victim sitting up and leaning forward.
- 4.4 Inhalation:** Remove victim to well-ventilated area. Seek immediate medical attention. If conscious but coughing or short of breath, loosen tight fitting clothing, have victim lie down and keep warm and calm. Oxygen may be given. If simply overwhelmed, loosen tight clothing, lie victim down, monitor pulse and keep warm and calm.
- 4.5 Note to Physician:** Not Available

5 Fire Fighting Measures

- 5.1 Flash Point/Method:** Non-Flammable
- 5.2 Explosive Limits:**
- 5.2.1 Upper:** Not Applicable
- 5.2.2 Lower:** Not Applicable
- 5.3 Autoignition Temperature:** Not Applicable
- 5.4 Hazardous Combustion Products:** Combustion or decomposition of material may produce hazardous and/or irritating fumes. Hazardous polymerization will not occur.
- 5.5 Conditions of Flammability:** Not Applicable
- 5.6 Extinguishing Media:** Carbon dioxide or dry powder.
- 5.7 Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.
- 5.8 Explosion Data:**
- 5.8.1 Sensitivity to Mechanical Impact:** Not Applicable
- 5.8.2 Sensitivity to Static Discharge:** Not Applicable

6 Accidental Release Measures

- 6.1 Leak and Spill Procedure:** Personal and protective equipment and clothing is recommended during all cleanup procedures. Eliminate all ignition sources, stop or control leak. Do not allow into any body of water. Avoid physical contact during removal. An approved respirator is recommended when irritant or nuisance vapors are produced. Absorb on earth, sand or vermiculite, and place in a closed container and hold for waste disposal. Absorbent pads or paper towels may be used for small spills of less than 1 litre. Ventilate area and wash spill site after material pickup is complete.

7 Handling and Storage

- 7.1 Handling:** Should be handled by trained personnel observing good laboratory practices. Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated

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exposure. May cause allergic reaction in sensitized individuals. May be disposed of down drain but flush drain with large amounts of water.

7.2 Storage: Store at 2-8°C. Keep container tightly closed.

8 Exposure Controls/Personal Protection

8.1 Engineering Controls: Eye wash and safety shower. Mechanical exhaust required.

8.2 Personal Protective Equipment:

8.2.1 Respiratory Protection: Highly recommended if irritating vapors are produced during routine usage of this product. Though it is not likely, if TWA or other exposure limits are exceeded during the usage of this material, attempt to reduce exposure levels to within an acceptable range. If this is not possible, use a NIOSH/MSHA-Approved respirator. Follow NIOSH/MSHA and equipment manufacturer's recommendations to determine appropriate equipment choice. Chemicals without established limits must also be considered when determining respiratory protection protocols.

8.2.2 Eye Protection: Splash-proof chemical safety goggles or face shield.

8.2.3 Skin Protection: Use chemically resistant gloves (e.g. rubber, plastic), lab coat with sleeves or rubber apron.

8.3 General Hygiene Considerations: Wash hands after use.

8.4 Exposure Limits:

8.4.1 ACGIH TLV-TWA: Not Available

8.4.2 OSHA PEL-TWA: N-Methyl-2-pyrrolidone (M2P): 25 ppm (103 mg/m³)(TWA)
75 ppm (309 mg/ m³)(STEL)

Propylene glycol (PG): None identified

9 Physical/Chemical Properties:

9.1 Appearance: Liquid

9.2 Odor: None

9.3 Physical State: Liquid

9.4 pH: Not Available

9.5 Boiling Point: Not Available

9.6 Melting Point: Not Available

9.7 Freezing Point: Not Available

9.8 Vapor Pressure: Not Available

9.9 Vapor Density: Not Available

9.10 Specific Gravity: Not Available

9.11 Evaporation Rate: Not Available

9.12 Solubility in Water: Soluble

9.13 Odor Threshold: Not Available

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9.14 Coefficient of Water/Oil Distribution: Not Available

10 Stability/Reactivity:

10.1 Chemical Stability: Stable when used appropriately.
10.2 Conditions to Avoid: Protect from moisture.
10.3 Incompatibility (Material to Avoid): None identified.
10.4 Hazardous Decomposition/By-Products: Carbon dioxide, Carbon monoxide.
10.5 Hazardous Polymerization: Not Available

11 Toxicological Information

11.1 Effects of Short-Term Exposure: Not Available
11.2 Effects of Long-Term Exposure: Not Available
11.3 Irritancy of Product: Not Available
11.4 Sensitization to Product: Not Available
11.5 Carcinogenicity: (M2P): Suspected Carcinogen.
11.6 Reproductive Toxicity: (M2P)&(PG): Potential Reproductive Hazard
11.7 Teratogenicity and Embryotoxicity: Not Available
11.8 Mutagenicity: Not Available
11.9 Name of Toxicologically Synergistic Products:
11.10 LD50 (specify species and route): (M2P): Orl-rat = 3914 mg/kg.
Ipt-rat = 2472 mg/kg
Target Organ(s): Bone Marrow, Thymus,
Spleen, Lymphatic System
(PG): Orl-rat = 20000 mg/kg
Target Organ(s): None identified
11.11 LC50 (specify species): Not Available

12 Ecological Information

12.1 This product/component is miscible with water. May spread in water systems. Also contains volatile organic compounds, which have a photochemical ozone creation potential.

13 Disposal Considerations

13.1 Waste Disposal Method: Contact a licensed professional waste disposal service to dispose of this material. Disposal should be in accordance with existing practices at your institution. Observe all Federal, Provincial/State and Local Laws. Do not dump into any body of water.

14 Transport Information

14.1 Transport Canada

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14.1.1	PIN No.:	Not Available
14.2	U.S. Department of Transportation:	
14.2.1	Proper Shipping Name:	Not Available
14.2.2	Hazard Class:	This substance not known to be hazardous for transport.
14.2.3	ID. Number:	Not Available
14.2.4	Packing Group:	Not Available
14.2.5	Label Statement:	Not Available

15 Regulatory Information

- 15.1 WHMIS Classification: B3, D2B
- 15.2 Note: This MSDS was prepared according to the Canadian Controlled Products Regulation and contains all of the information required by those regulations.
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16 Other Information

- 16.1 Preparation Information: Refer to PIS No. 01630.
- 16.2 This MSDS has been revised in the following section(s): 1.5, 1.8, 13.1, 15.1
- 16.3 Original Issue Date: January 12, 2007.
- 16.4 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 Material Safety Data Sheet (MSDS) is current as of the Issue Date shown in Section 1.7 of this document and may be subject to ammendment by StemCell Technologies Inc.
- 16.5 Disclaimer: THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT USED FOR DIAGNOSTIC OR THERAPEUTIC APPLICATIONS.

Material Safety Data Sheet

EPO ELISA Stop Solution

Cat. No: 01605

1 Product and Company Identification:

- 1.1 Product Name: EPO ELISA Stop Solution
- 1.2 Catalogue Number: 01605
- 1.3 Synonyms: N/A
- 1.4 Product Use: Reagent in EPO-ELISA Kit (Cat. No. 01630)
- 1.5 Manufacturer/Supplier: StemCell Technologies Inc.
Suite 400, 570 West 7th Avenue
Vancouver, BC V5Z 1B3
Canada
- 1.6 In Case of Emergency Call: 604-877-0713
- 1.7 Date Prepared: January 18, 2010
- 1.8 Prepared By: Quality Control

2 Composition / Information on Ingredients

2.1 Component	CAS No.	%W/W
0.5N Sulfuric Acid	7664-93-9	2.5%

3 Hazards Identification:

- 3.1 Emergency Overview: May cause severe eye, skin, and respiratory irritation or burns. May be harmful if swallowed. Potential carcinogen.
- 3.2 Routes of Exposure: Absorbed through skin. Eye contact. Inhalation. Ingestion.
- 3.3 Potential Health Effects:
- 3.3.1 Eye: Contact with eyes may cause severe irritation or burns.
- 3.3.2 Skin: Contact with skin may cause severe irritation or burns.
- 3.3.3 Inhalation: Vapors may be irritating to eyes, nose, and throat.
- 3.3.4 Ingestion: Poison may be fatal if swallowed, causes burns.
- 3.4 Chronic Effects/Carcinogenicity: Contains sulfuric acid, a potential carcinogen.
- 3.5 OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

4 First Aid Measures:

- 4.1 Eyes: Flush with copious amounts of water for at least 15 minutes. To assure adequate flushing, separate eyelids. Call a physician.
- 4.2 Skin: Flush with copious amounts of water for at least 15 minutes. Call a physician.
- 4.3 Ingestion: If swallowed **do not** induce vomiting; if conscious, give water, milk, or milk of magnesia.
- 4.4 Inhalation: Remove person to fresh air. Call a physician.
- 4.5 Note to Physician: Not Applicable

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5 Fire Fighting Measures:

- 5.1 Flash Point/Method: Not Applicable
- 5.2 Explosive Limits:
- 5.2.1 Upper: Not Applicable
 - 5.2.2 Lower: Not Applicable
- 5.3 Autoignition Temperature: Not Applicable
- 5.4 Hazardous Combustion Products: Not Applicable
- 5.5 Conditions of Flammability: Not Applicable
- 5.6 Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical.
- 5.7 Fire Fighting Procedures: Not Applicable
- 5.8 Explosion Data:
- 5.8.1 Sensitivity to Mechanical Impact: Not Applicable
 - 5.8.2 Sensitivity to Static Discharge: Not Applicable

6 Accidental Release Measures:

- 6.1 Leak and Spill Procedure: Neutralize spill with soda ash or lime. Carefully place material into a spill control container and remove from the area. Flush spill area with water.

7 Handling and Storage:

- 7.1 Handling: Do not get in eyes, on skin, or clothing. Do not breath vapor. Wash thoroughly after handling.
- 7.2 Storage: Store at 2-8°C. Keep in tightly closed container. Store separately and away from flammables and combustible materials.

8 Exposure Controls/Personal Protection:

- 8.1 Engineering Controls: Use with adequate ventilation.
- 8.2 Personal Protective Equipment:
- 8.2.1 Respiratory Protection: This is a laboratory-use product for which no industrial protective equipment has been designated.
 - 8.2.2 Eye Protection: Safety Glasses.
 - 8.2.3 Skin Protection: Lab Coat, Latex Gloves.
- 8.3 General Hygiene Considerations: Wash hands after use.
- 8.4 Exposure Limits:
- 8.4.1 ACGIH TLV-TWA: 1 mg/m³
 - 8.4.2 OSHA PEL-TWA: 1 mg/m³

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9 Physical/Chemical Properties:

9.1 Appearance:	Clear, colorless.
9.2 Odor:	Odorless
9.3 Physical State:	Liquid
9.4 pH:	Not Applicable
9.5 Boiling Point:	Not Applicable
9.6 Melting Point:	Not Applicable
9.7 Freezing Point:	Not Applicable
9.8 Vapor Pressure:	Not Applicable
9.9 Vapor Density:	Not Applicable
9.10 Specific Gravity:	Not Applicable
9.11 Evaporation Rate:	Not Applicable
9.12 Solubility in Water:	Not Applicable
9.13 Odor Threshold:	Not Applicable
9.14 Coefficient of Water/Oil Distribution:	Not Applicable

10 Stability/Reactivity:

10.1 Chemical Stability:	Stable.
10.2 Conditions to Avoid:	Not Applicable
10.3 Incompatibility (Material to Avoid):	Water and strong bases.
10.4 Hazardous Decomposition/By-Products:	Oxides of sulfur. Toxic fumes.
10.5 Hazardous Polymerization:	Not Applicable

11 Toxicological Information

11.1 Effects of Short-Term Exposure:	Not Applicable
11.2 Effects of Long-Term Exposure:	Not Applicable
11.3 Irritancy of Product:	Severe Irritant.
11.4 Sensitization to Product:	Not Applicable
11.5 Carcinogenicity:	Not Applicable
11.6 Reproductive Toxicity:	Not Applicable
11.7 Teratogenicity and Embryotoxicity:	Not Applicable
11.8 Mutagenicity:	Not Applicable
11.9 Name of Toxicologically Synergistic Products:	Not Applicable

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11.10 LD50 (specify species and route): Not Applicable

11.11 LC50 (specify species): Not Applicable

12 Ecological Information

12.1 None

13 Disposal Considerations

13.1 Waste Disposal Method: Disposal should be in accordance with existing practices at your institution. Observe all Federal, Provincial/State and Local laws.

14 Transport Information

14.1 Transport Canada

14.1.1 PIN No.: Not restricted

14.2 U.S. Department of Transportation:

14.2.1 Proper Shipping Name: Sulfuric Acid Solution

14.2.2 Hazard Class: 8

14.2.3 ID. Number: UN2796

14.2.4 Packing Group: II

14.2.5 Label Statement: Not Applicable

15 Regulatory Information

15.1 WHMIS Classification: D1B

15.2 Note: This MSDS was prepared according to the Canadian Controlled Products Regulation and contains all of the information required by those regulations.

16 Other Information

16.1 Preparation Information: Refer to PIS No. 01630

16.2 This MSDS has been revised in the following section(s): 1.5, 1.8, 15.1

16.3 Original Issue Date: October 15, 2003

16.4 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 Material Safety Data Sheet (MSDS) is current as of the Issue Date shown in Section 1.6 of this document and may be subject to amendment by StemCell Technologies Inc.

16.5 Disclaimer: THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT USED FOR DIAGNOSTIC OR THERAPEUTIC APPLICATIONS.