

Material Safety Data Sheet

Osteomark® , Part # 9006

Manufactured by:

Wampole Laboratories  
2 Research Way  
Princeton, NJ 08540  
(609) 627-8000  
(609) 627-8013

Date of Preparation:

June 10, 1994

This kit is composed of the following components, as listed below:

**Component**

- Antigen Coated Microtiter Plate, 96 Well
- Calibrators (1, 30, 100, 300, 1000, 3000 nM BCE)
- Antibody Conjugate Concentrate
- Antibody Conjugate Diluent
- 30X Wash Concentrate
- Level I and Level II Urine Controls

These components are considered non-hazardous when used in compliance with the package insert and good laboratory practices. The Antigen Coated 96-Well Plate, Calibrators, and Urine Controls should be handled as potentially biohazardous material, because they contain human urine and human bone tissue.

**Component**

- Buffered Substrate
- Chromogen Reagent
- Stopping Reagent

**Notice**

- Contains 3% DMSO (Dimethyl Sulfoxide)
- Contains 99% DMSO and 1% 3,3',5,5'-tetramethylbenzidine(TMB)
- Is 100% 1N Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>)

These components contain hazardous ingredients. Specific cautions and procedures related to these ingredients are listed below.

**Sulfuric Acid (ingredient of Stopping Reagent)**

Section 1: Identification:

1N Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>)  
OSHA PEL & ACGIH TLV: 1 mg/m<sup>3</sup>

Section 2: Physical and Chemical Characteristics:

Boiling Point: 100°C  
Specific Gravity: 1.03  
Physical Description: Clear, colorless, and odorless liquid.

Section 3: Physical Hazards:

Flammability: Not flammable  
Fire fighting techniques: Keep cool to avoid toxic fumes. SCBA and full protective gear recommended. Prevent contact with skin and eyes.  
Explosion Hazard: None.  
Stability: Stable.  
Conditions to avoid: Fire conditions and contact with strong bases.

Section 4: Health Hazards:

Primary Routes of Entry: Skin absorption and ingestion.  
Acute Effects: May be fatal if swallowed. Corrosive to skin, will destroy tissue if not rinsed off.  
Chronic Effects: Unknown.  
Medical Conditions Aggravated by Exposure: Skin conditions such as dermatitis.  
Signs and Symptoms of Exposure: Burning sensation on skin, coughing, headache, nausea, and vomiting.  
Carcinogenicity: Not known to be listed in any list.

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### Section 5: Emergency First Aid Procedures:

Eye contact: Immediately flush affected eye(s) with plenty of water for at least fifteen minutes, parting eyelids to ensure that water contacts the eyeball.

Inhalation: Immediately remove subject to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If victim is conscious, wash mouth out with water. Contact physician or poison control center immediately with the above content information.

Skin Contact: Flush skin with plenty of water for at least fifteen minutes, removing contaminated clothing.

### Section 6: Control Measures:

Ventilation: Normal, mechanical room ventilation.

Hygienic work practices: Use standard good laboratory practices.

Spill Cleanup: Dike spill with absorbent materials, neutralize with a solid acid neutralizer (e.g., Sodium Bicarbonate), and dispose of waste in an appropriate waste container.

Waste disposal: Neutralize or dilute to pH 6-8, then wash down drain with plenty of water. Check with local regulations before disposing of material.

### Section 7: Precautions and Protective Measures:

Respiratory Protection: None necessary.

Gloves: Nitrile recommended, rubber or latex acceptable.

Eye Protection: Safety glasses recommended.

Other protective clothing and equipment: Lab coat or apron recommended

Other Precautions and/or Special Hazards: Stopping Reagent is poisonous and corrosive. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

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### Dimethyl Sulfoxide (ingredient of Buffered Substrate and Chromogen Reagent)

#### Section 1: Identification:

100% Dimethyl Sulfoxide (DMSO)  
OSHA PEL & ACGIH TLV: Not Established

#### Section 2: Physical and Chemical Characteristics:

Boiling Point: 189°C  
Melting Point: 19°C  
Specific Gravity: 1.10  
Physical Description: Clear, colorless liquid with a faint, distinctive odor.

#### Section 3: Physical Hazards:

Flammability: Mildly flammable.

Fire fighting techniques: Keep cool to avoid toxic fumes. SCBA and full protective gear recommended. Prevent contact with skin and eyes.

Explosion Hazard: Explosive mixtures can be formed in air.

Stability: Stable.

Conditions to avoid: Fire conditions and contact with strong oxidizers, alkali metals, and active halogen compounds.

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### Section 4: Health Hazards:

Primary Routes of Entry:

Skin absorption, inhalation, and ingestion.

Acute Effects:

Headache, dizziness, and nausea upon inhalation; nausea, vomiting and potential unconsciousness upon ingestion; and rapid absorption of other compounds on skin with skin contact.

Chronic Effects:

Unknown.

Medical Conditions

Aggravated by Exposure:

Various skin conditions

Signs and Symptoms of Exposure:

Headache, nausea, and dizziness.

Carcinogenicity:

Not known to be listed.

### Section 5: Emergency First Aid Procedures:

Eye contact:

Immediately flush affected eye(s) with plenty of water for at least fifteen minutes, parting eyelids to ensure that water contacts the eyeball.

Inhalation:

Immediately remove subject to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion:

If victim is conscious, wash mouth out with water. Contact physician or poison control center immediately with the above content information.

Skin Contact:

Flush skin with plenty of water for at least fifteen minutes, removing contaminated clothing.

### Section 6: Control Measures:

Ventilation:

Normal, mechanical room ventilation.

Hygienic work practices:

Use standard good laboratory practices.

Spill Cleanup:

Clean up spill with absorbent material, and dispose of material in compliance with local, state, and federal regulations.

Waste disposal:

Check with local, state, and federal regulations before disposing of material.

### Section 7: Precautions and Protective Measures:

Respiratory Protection:

None necessary.

Gloves:

Nitrile recommended, rubber or latex acceptable.

Eye Protection:

Safety glasses recommended.

Other protective clothing and equipment:

Lab coat or apron recommended.

Other Precautions

and/or Special Hazards:

DMSO absorbs extremely quickly through the skin, and carries other compounds through the skin as well. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

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## 3, 3<sup>1</sup>, 5, 5<sup>1</sup> - Tetramethylbenzidine (ingredient of Chromogen Reagent)

### Section 1: Identification:

100% 3,3',5,5' Tetramethylbenzidine

OSHA PEL & ACGIH TLV: 1 mg/m<sup>3</sup>

### Section 2: Physical and Chemical Characteristics:

Melting Point: 168-9°C

Physical Description: White to light yellow solid.

### Section 3: Physical Hazards:

Flammability: Not flammable.

Fire fighting techniques: Keep cool to avoid toxic fumes. SCBA and full protective gear recommended. Prevent contact with skin and eyes.

Explosion Hazard: None.

Stability: Stable.

Conditions to avoid: This material is light and air sensitive. Keep away from strong oxidizing agents.

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Section 4: Health Hazards:

Primary Routes of Entry:	Skin absorption, inhalation, and ingestion.
Acute Effects:	Causes eye, skin, and upper respiratory tract irritation.
Chronic Effects:	Potentially mutagenic and/or teratogenic.
Medical Conditions Aggravated by Exposure:	Skin conditions such as dermatitis.
Signs and Symptoms of Exposure:	Sneezing, coughing, eye or skin irritation.
Carcinogenicity:	Not known to be listed.

Section 5: Emergency First Aid Procedures:

Eye contact:	Immediately flush affected eye(s) with plenty of water for at least fifteen minutes, parting eyelids to ensure that water contacts the eyeball.
Inhalation:	Immediately remove subject to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion:	If victim is conscious, wash mouth out with water. Contact physician or poison control center immediately with the above content information.
Skin Contact:	Flush skin with plenty of water for at least fifteen minutes, removing contaminated clothing.

Section 6: Control Measures:

Ventilation:	Normal, mechanical room ventilation.
Hygienic work practices:	Use standard good laboratory practices.
Spill Cleanup:	Sweep up and dispose of waste in an appropriate waste container.
Waste disposal:	Check with local regulations before disposing of material.

Section 7: Precautions and Protective Measures:

Respiratory Protection:	None necessary.
Gloves:	Nitrile recommended, rubber or latex acceptable.
Eye Protection:	Safety glasses recommended.
Other protective clothing and equipment:	Lab coat or apron recommended.
Other Precautions and/or Special Hazards:	Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.