



A Meridian Life Science® Company

## **MATERIAL SAFETY DATA SHEET**

According to EC Directive 91/155 EC

Date: 07/09/11

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

#### 1.1 Product Details:

Trade Name: **DNA Extraction Control**

Catalogue Number: BIO-35028: 500 Reactions  
BIO-35029: 2000 Reactions  
BIO-35031: 500 Reactions  
BIO-35032: 2000 Reactions  
BIO-35033: 500 Reactions  
BIO-35034: 2000 Reactions

#### 1.2 Company Details:

Manufacturer/ Supplier: Bioline  
Suite 212a,  
National Innovation Centre,  
Australian Technology Park  
EVELEIGH  
NSW 2015

Further Information Obtainable from:  
Technical Services  
Details as above

#### 1.3 Emergency Details:

24-Hour Contact in case of emergency:  
Vergiftungs-Informationen-Zentrale  
Mathilden Strasse 1  
79106 Freiburg  
GERMANY  
Tel: +49 (0) 761 19240.

### 2. Composition/ Information on Ingredients

Substance Name: The hazards identified with this product are those associated with the following component (s):

Cells

Dimethyl Sulfoxide 0–10% Cas. #67-68-5 SARA 313: No

Glycerol 0–10% Cas. #56-81-5 SARA 313: No

PBS Phosphate Buffered Saline

Sodium chloride 81% Cas. #7647-14-5  
Sodium phosphate, dibasic ~14% Cas. #7558-79-4  
Potassium phosphate, Monobasic ~3.0% Cas. #7778-77-0  
Potassium chloride ~2.0% Cas. #7447-40-7 SARA 313: No

### 3. Hazards Identification

NFPA Rating/HMIS Rating

Health: 0

Flammability: 0

Reactivity: 0

#### 3.1 Emergency Overview:

The hazards identified with this product are those associated with the following component(s):

Cells

Dimethyl Sulfoxide and Glycerol.

PBS

Sodium chloride, Sodium phosphate, Potassium phosphate and Potassium chloride

For additional information on toxicity, please refer to Sec. 11.

### 4. First Aid Measures

#### 4.1 Oral Exposure:

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

#### 4.2 Inhalation Exposure:

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### 4.3 Dermal Exposure:

In case of contact, immediately wash skin with soap and copious amounts of water.

#### 4.4 Eye Exposure:

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

### 5. Fire Fighting Measures

#### 5.1 Extinguishing Media:

Suitable: Water spray. Carbon Dioxide, dry chemical powder or appropriate foam.

#### 5.2 Special Fire fighting Procedures:

Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

#### 5.3 Specific Hazard(s):

Combustible liquid. Emits toxic fumes under fire conditions.

#### 5.4 Flash point:

188.6°F, 87°C Method closed cup.

5.5 Flammability:

N/A

5.6 Auto-ignition Temp:

301°C

5.7 Explosion Limits:

Lower 3.5%, Upper: 42%

6. Fire Fighting Measures

6.1 Procedure(s) Of Personal Precaution(s):

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves and Chemical safety goggles.

6.2 Methods For Cleaning Up:

Cover with dry lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

6.3 Environmental Precaution(s):

Avoid contaminating water supply. Avoid contaminating sewers and waterways with this material.

6.4 Procedure To Be Followed in Case Of Leak or Spill:

Evacuate area.

7. Handling and Storage

7.1 Handling:

Avoid prolonged or repeated exposure.

7.2 User Exposure:

Avoid Inhalation. Avoid contact with DMSO solutions containing toxic materials or material with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body. Avoid prolonged or repeated exposure.

7.3 Storage:

Keep tightly closed, away from sparks and open flames. Store in a cool dry place.

7.4 Special Requirements:

Store under inert gas. Hygroscopic.

8. Exposure Controls/ Personal Protection

8.1 Engineering Controls:

Safety shower and eye bath. Mechanical exhaust required.

8.2 Personal Protective Equipment:

Government approved respirator.

8.3 Hand:

Compatible chemical-resistant gloves.

8.4 Eye:

Chemical safety goggles.

8.5 Skin Specific:

Chemical resistant

8.6 General Hygiene Measures:

Wash hands thoroughly after handling. Wash contaminated clothing before use.

9. Physical and Chemical Properties

9.1 Appearance: Physical State:

Clear Liquid Color: Colorless

9.2 Property Value At temperature or Pressure

DMSO

**Molecular Weight:** 78.13 AMU

**pH:** N/A

**BP/BP Range:** 89°C

**MP/MP Range:** 18.4°C

**Freezing Point:** N/A

**Vapor Pressure:** 0.42 mmHg 20°C

**Vapor Density:** 2.7 g/l

**Saturated Vapor:** N/A

**SG/Density:** .1 g/cm<sup>3</sup>

**Bulk Density:** N/A

**Odor Threshold:** N/A

**Volatile %:** N/A

**Voc Content:** N/A

**Water Content:** N/A

**Solvent Content:** N/A

**Evaporation Rate:** N/A

**Viscosity:** 0.002 Pas 20°C

**Surface Tension:** N/A

**Partition Coefficient:** Log Kow: -2.03

**Decomposition Temp:** > 190°C

**Flash Point:** 88.6°F, 87°C Method: Closed cup.

**Explosion Limits:** Lower: 3.5%, Upper: 42%

**Flammability:** N/A

**Auto-ignition Temp:** 01°C

**Refraction Index:** 1.479

**Optical Rotation:** N/A

**Miscellaneous Data:** N/A

**Solubility in Water:** Soluble

N/A = not available

PBS

**Physical State:** Liquid

**Appearance:** clear

**Odor:** none reported

**pH:** 7.0

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.  
**Evaporation Rate:** Not available.  
**Viscosity:** Not available.  
**Boiling Point:** Not available.  
**Freezing/Melting Point:** Not available.  
**Decomposition Temperature:** Not available.  
**Solubility:** Soluble.  
**Specific Gravity/Density:** Not available.  
**Molecular Formula:** Mixture  
**Molecular Weight:** Not available.

## 10. Stability and Reactivity

### 10.1 Stability:

Stable

### 10.2 Conditions to Avoid:

Moisture.

Excessive heat

### 10.3 Materials to Avoid:

Acid chlorides, Phosphorus halides, strong oxidizing agents, strong acids, strong reducing agents, potassium permanganate dichloromaleic anhydride + urea, lithium, and nitrogen compounds.

### 10.4 Hazardous Decomposition Products:

Carbon monoxide, Carbon dioxide, Sulfur dioxides.

### 10.5 Hazardous Polymerization:

Will not occur.

### 10.6 Hazardous Exothermic Reactions:

Hazardous Exothermic Reactions:

Methyl sulfoxide (DMSO) undergoes a violent exothermic reaction on mixing with copper wool and trichloroacetic acid. On mixing with potassium permanganate it will flash instantaneously. It reacts violently with: acid halides, cyanuric chloride, silicon tetrachloride, phosphorus trichloride and trioxide, thionyl chloride, magnesium perchlorate, silver fluoride, methyl bromide, iodine pentafluoride, nitrogen periodate, diborane, sodium hydride and perchloric and periodic acids. When heated above its boiling point methyl sulfoxide degrades giving off formaldehyde, methyl mercaptan and sulfur dioxide.

## 11. Toxicological Information

### 11.1 Acute Toxicity

Dermal/Skin

DMSO: 40gm/kg

### 11.2 Inhalation/Respiratory:

Not determined

### 11.3 Oral/Ingestion:

DMSO: 14,500 MG/KG

### 11.4 Target organs:

Blood, Eyes, Skin

11.5 Carcinogenicity:

NTP: Not tested

IARC: Not listed

OSHA: Not regulated

12. Ecological Information

12.1 Acute Ecotoxicity Tests

**Test Type:** LC<sub>50</sub> Fish

**Species :** Onchorhynchus mykiss (Rainbow trout)Time: 96h

**Value:** 35,000 mg/1

**Test Type:** EC<sub>50</sub> Daphnia

**Species :** Daphnia pulex

**Value:** 27,500 mg/1

**Test Type:** EC<sub>50</sub> Alge

**Species:** Lepomis macrochirus (Bluegill)

**Time:** 96 h

**Value:** > 400,000 mg/1

**Test Type:** LC<sub>50</sub> Fish

**Species:** Pimephales promelas (Fathead minnow)

**Time:** 96 h

**Value:** 34,000 mg/1

13. Disposal Considerations

13.1 Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

14. Transport Information

14.1 DOT

Proper Shipping Name: Combustible Liquid n.o.s.

UN # NA1993

Class: Combustible Liquid

Packing Group: Packing Group III

Hazard Label: None

PIH: Not PIH

14.2 IATA

Non-Hazardous for Air Transport: non-hazardous for air transport.

15. Regulatory Information

15.1 US Classification and Label Text

US Statements: Combustible. Readily absorbed through skin. Target Organ (s): Eyes, Skin.

15.2 United States Regulatory Information:

**Sara Listed:** No

**TSCA Inventory Item:** Yes

15.3 Canada Regulatory Information WHMIS Classification:

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**DSL:** Yes

**NDSL:** No

16. Other Information

The information provided in this Material Safety Data Sheet (MSDS) is accurate to the best of our present knowledge. However, this shall not constitute a guarantee for any specific product features. All substances and preparations may present unknown hazards and should be used with caution. Bioline shall not be held liable for any damage resulting from the handling of or from contact with the above product. The information supplied in this MSDS shall not establish a legally valid contractual relationship.