

**Material Safety Data Sheet**

Printing date 10/28/2008

Reviewed on 08/22/2008

**1 Identification of substance:**

- **Product details:**
- **Trade name:** Suspect 4 DNA, Lyophilized
- **Catalog or product number:** 9703820
- **Application of the substance / the preparation** Laboratory chemicals
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547 (510)741-1000
- **Information department:** Technical services, customer support.
- **Emergency information:**  
1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.  
510-741-1000

**2 Composition/Information on components:**

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with non-hazardous additions.

· **Listing of dangerous and non-hazardous components:**

|   |  |          |
|---|--|----------|
| CAS: 77-86-1<br>EINECS: 201-064-4<br>RTECS: TY 2900000    | Tris(hydroxymethyl)aminomethane<br>Xn, Xi; R 22-36<br>-----<br>Danger: Skull and crossbones 3.1.O/3, 3.3/2A                    | 35-50%   |
| CAS: 7647-14-5<br>EINECS: 231-598-3                       | sodium chloride<br>Xi; R 36/38<br>-----<br>Warning: Exclamation mark 3.2/2, 3.3/2A   | 35-50%   |
| CAS: 7791-18-6<br>EINECS: 232-094-6<br>RTECS: OM 2975000  | magnesium chloride hexahydrate   | 5-10%    |
| CAS: 27565-41-9<br>EINECS: 248-531-9<br>RTECS: XO 8576500 | (R*,R*)-(±)-1,4-dimercaptobutane-2,3-diol<br>Xn; R 20/21/22<br>-----<br>Danger: Skull and crossbones 3.1.O/3, 3.1.D/3, 3.1.I/4 | 1.0-2.5% |
| CAS: 9007-49-2  | DNA from various sources   | 1.0-2.5% |

- **Additional information** For the wording of the listed risk phrases refer to section 15.

**3 Hazards identification**

- **Emergency overview:**  
Irritant to eyes.  
Irritant to skin.  
Irritant to respiratory system and skin.  
Xn Harmful
- **Routes of exposure:**  
Ingestion  
Skin
- **Information pertaining to particular dangers for man and environment**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.  
R 22 Harmful if swallowed.  
R 36/38 Irritating to eyes and skin.

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- **Classification system**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data. The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.

- **GHS label elements**

Exclamation mark **Warning**

3.1/4 - Harmful if swallowed.

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

- **Prevention:**

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

- **Response:**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see label).

Rinse mouth.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

- **Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### 4 First aid measures

- **General information**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation** In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing** Immediately call a doctor.

#### 5 Fire fighting measures

- **Suitable extinguishing agents** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Protective equipment:** No special measures required.

#### 6 Accidental release measures

- **Person-related safety precautions:** Not required

- **Measures for environmental protection:** No special measures required.

- **Measures for cleaning/collecting:** Dispose contaminated material as waste according to item 13.

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**7 Handling and storage**

- **Handling**
- **Information for safe handling:** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** According to product specification
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

**8 Exposure controls and personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Protection of hands:** Protective gloves.
- **Material of gloves:** Synthetic gloves
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**  
Safety glasses  
Tightly sealed goggles.

**9 Physical and chemical properties:**

· **General Information**

|               |          |
|---------------|----------|
| <b>Form:</b>  | Solid.   |
| <b>Color:</b> | Whitish  |
| <b>Odor:</b>  | Odorless |

· **Change in condition**

**Melting point/Melting range:** undetermined  
**Boiling point/Boiling range:** undetermined

· **Flash point:** Not applicable

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density:** Not determined

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· **Solubility in / Miscibility with Water:** Easily soluble

· **Solvent content:**  
 · **Organic solvents:** 0.0 %

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known

**11 Toxicological information**

- **Acute toxicity:**
- **LD/LC50 values for hazardous components per OSHA criteria:**

77-86-1 Tris(hydroxymethyl)aminomethane

Oral LD50 5900 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

- **Target organs:**
- Skin.
- Eye.

**13 Disposal considerations**

- **Product:**
- **Recommendation**  
Hand over to hazardous waste disposers.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

- **DOT regulations:**
- **Hazard class:** -

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· **Land transport ADR/RID (cross-border)**

· **ADR/RID class:** -

· **Maritime transport IMDG:**

· **IMDG Class:** -

· **Marine pollutant:** No

· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:** -

· **UN "Model Regulation":** -

**15 Regulations**

· **SARA (Superfund Amendants and Reauthorization Act of 1986 - USA)**

· **Section 302/304 (40CFR355.30 / 40CFR355.40):**

None of the ingredients is listed.

· **Section 313 (40CFR372.65):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

77-86-1 Tris(hydroxymethyl)aminomethane

7647-14-5 sodium chloride

27565-41-9 (R\*,R\*)-(±)-1,4-dimercaptobutane-2,3-diol

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Markings according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**

Xn Harmful

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· **Hazard-determining components of labelling:**

Tris(hydroxymethyl)aminomethane

· **Risk phrases:**

22 Harmful if swallowed.

36/38 Irritating to eyes and skin.

· **Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37 Wear suitable protective clothing and gloves.

60 This material and its container must be disposed of as hazardous waste.

**16 Other information:**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Environmental Health and Safety.· **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Reglement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· **\* Data compared to the previous version altered.**