

Material Safety Data Sheet

Printing date 04/05/2010

Reviewed on 10/21/2009

1 Identification of substance:

- **Product details:**
- **Trade name:** Quantaphase II B12/Folate Dithiothreitol
- **Catalog or product number:** 191-1057
- **Application of the substance / the preparation** In-vitro laboratory reagent or component
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Diagnostic Group
4000 Alfred Nobel Drive
Hercules, California 94547
1(510)724-7000
- **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.

2 Composition/Information on components:

- **Chemical characterization:**
- **CAS No. Description:**
27565-41-9 (R*,R*)-(±)-1,4-dimercaptobutane-2,3-diol
- **Identification number(s):**
- **EINECS Number:** 248-531-9
- **Additional information:** For the wording of the listed risk phrases refer to section 15.

3 Hazards identification

- **Emergency overview:**
Irritant to skin.
Xn Harmful
- **Routes of exposure:**
Ingestion
Inhalation
Skin
- **Information pertaining to particular dangers for man and environment**
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- **Classification system**
The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.
- **NFPA ratings (scale 0-4)**
Health = 2
Fire = 1
Reactivity = 0

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**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing**
Rinse mouth with water. Seek medical attention and appropriate follow-up.
Immediately call a doctor.
- **Information for doctor**
- **The following symptoms may occur:** Breathing difficulty

* **5 Fire fighting measures**

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Protective equipment:** Mount respiratory protective device.

* **6 Accidental release measures**

- **Person-related safety precautions:**
Avoid formation of dust.
Wear protective clothing.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

* **7 Handling and storage**

- **Handling**
- **Information for safe handling:**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
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:** Not required.
- **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.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

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- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **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

9 Physical and chemical properties:

· **General Information**

Form:	Solid.
Color:	Amber colored
Odor:	Sulphurous

· **Change in condition**

Melting point/Melting range: 42-44°C
Boiling point/Boiling range: undetermined

· **Flash point:** > 100°C

· **Flammability (solid, gaseous)** Product is not flammable.

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

· **Density:** Not determined

· **Solubility in / Miscibility with**

Water:	Fully miscible
Organic solvents:	0.0 %

Solids content: 100.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** Sulfur oxides (SOx)

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Target organs:**
Skin.

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Respiratory tract.

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12 Ecological information:

- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

13 Disposal considerations

- **Product:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

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

15 Regulations

- **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**
- **Section 302/304 (40CFR355.30 / 40CFR355.40):**
Substance not listed.
- **Section 313 (40CFR372.65):**
Substance is not listed.
- **TSCA (Toxic Substances Control Act):**
Substance is listed.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
Substance is not listed.
- **NTP (National Toxicology Program)**
Substance is not listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not 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***· Risk phrases:***20/21/22 Harmful by inhalation, in contact with skin and if swallowed.***· Safety phrases:***26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**36 Wear suitable protective clothing.**60 This material and its container must be disposed of as hazardous waste.***· National regulations****· Water hazard class:** *Generally not hazardous for water.***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***· * Data compared to the previous version altered.**