

**Material Safety Data Sheet**

Printing date 02/24/2012

Reviewed on 11/21/2011

**1 Identification of the substance/mixture and of the company/undertaking**

- **Product identifier**
- **Trade name:** MP Autoimmune Substrate
- **Catalog or product number:** 425-1317
- **Application of the substance / the preparation** In-vitro laboratory reagent or component
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Bio-Rad Laboratories, Diagnostic Group  
4000 Alfred Nobel Drive  
Hercules, California 94547 1(510)724-7000
- **Information department:**  
Technical services, customer support  
TechsupportUSSD@bio-rad.com
- **Emergency telephone number:**  
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 ingredients**

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

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

7732-18-5	water		50-100%
68-12-2	N,N-dimethylformamide	T Repr. Cat. 2 R61 Xn R20/21 Xi R36	2.5-5%
54827-17-7	3,3',5,5'-tetramethylbenzidine	T R23/24/25	0.01-0.1%

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

**3 Hazards identification**

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
Contains a component that may be fetotoxic and/or teratogenic.  
T; Toxic  
R61: May cause harm to the unborn child.
  - **Information concerning particular hazards for human 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.
  - **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.
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- **Label elements**
  - **Labelling according to EU guidelines:**  
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

(Contd. on page 2)

## Material Safety Data Sheet

Printing date 02/24/2012

Reviewed on 11/21/2011

Trade name: MP Autoimmune Substrate

(Contd. of page 1)

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

T Toxic

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

N,N-dimethylformamide

· **Risk phrases:**

61 May cause harm to the unborn child

· **Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

20 When using do not eat or drink.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

\* **4 First aid measures**

- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.

\* **5 Firefighting measures**

- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** Wear self-contained respiratory protective device.

\* **6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment (See section 8). Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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(Contd. on page 3)

**Material Safety Data Sheet**

Printing date 02/24/2012

Reviewed on 11/21/2011

Trade name: **MP Autoimmune Substrate**

(Contd. of page 2)

**7 Handling and storage**

- **Handling**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **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:** None.
- **Specific end use(s)** No further relevant information available.

**8 Exposure controls/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:**

**68-12-2 N,N-dimethylformamide**

PEL (United States)	30 mg/m <sup>3</sup> , 10 ppm Skin
REL (United States)	30 mg/m <sup>3</sup> , 10 ppm Skin
TLV (United States)	30 mg/m <sup>3</sup> , 10 ppm Skin; BEI

- **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.  
Store protective clothing separately.
- **Breathing equipment:** Not required.
- **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**

- **Appearance:**

<b>Form:</b>	liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless

- **pH-value at 20°C:** 3.5

- **Change in condition**

**Melting point/Melting range:** undetermined

(Contd. on page 4)

**Material Safety Data Sheet**

Printing date 02/24/2012

Reviewed on 11/21/2011

**Trade name: MP Autoimmune Substrate**

(Contd. of page 3)

<b>Boiling point/Boiling range:</b> 100°C	
· <b>Flash point:</b>	> 55°C
· <b>Ignition temperature:</b>	440°C
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Vapor pressure at 20°C:</b>	23 hPa
· <b>Density at 20°C:</b>	0.996 g/cm <sup>3</sup>
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	94.8 %
<b>Solids content:</b>	0.2 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

**11 Toxicological information**

· **Acute toxicity:**

· **LD/LC50 values for hazardous components per OSHA criteria:**

**68-12-2 N,N-dimethylformamide**

Oral	LD50	7600 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rbt)
Inhalative	LC50/4 h	9400 mg/l (mus)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No 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:

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:

**12 Ecological information**

- **Aquatic toxicity:** No further relevant information available.

(Contd. on page 5)

**Material Safety Data Sheet**

Printing date 02/24/2012

Reviewed on 11/21/2011

**Trade name: MP Autoimmune Substrate**

(Contd. of page 4)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
 Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation**  
 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· <b>UN-Number</b>	
· <b>DOT</b>	UN1993
· <b>ADR, IMDG, IATA</b>	1993
· <b>UN proper shipping name</b>	
· <b>ADR</b>	1993 FLAMMABLE LIQUID, N.O.S. (not viscous) (N,N-DIMETHYLFORMAMIDE)
· <b>IMDG, IATA</b>	FLAMMABLE LIQUID, N.O.S. (N,N-DIMETHYLFORMAMIDE)
· <b>Transport hazard class(es)</b>	
· <b>DOT</b>	
· <b>Label</b>	3
· <b>ADR</b>	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>IMDG, IATA</b>	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	III
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	30
· <b>EMS Number:</b>	F-E,S-E
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

(Contd. on page 6)

**Material Safety Data Sheet**

Printing date 02/24/2012

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**Trade name: MP Autoimmune Substrate**

(Contd. of page 5)

**· Transport/Additional information:**

**· IATA**

**· Remarks:**

*This package contains dangerous goods in small quantities and is in all respects in compliance with applicable international and national government regulations and the IATA Dangerous Goods Regulations.*

**15 Regulatory information**

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

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

None of the ingredients is listed.

**· Section 313 (40CFR372.65):**

68-12-2 | N,N-dimethylformamide

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

All ingredients are listed.

**· Carcinogenic categories**

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

68-12-2 | N,N-dimethylformamide

3

**· NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

**· National regulations**

**· Technical instructions (air):**

Class	Share in %
I	0.01-0.1
NK	2.5-5

**· Water hazard class:** Water hazard class 1 (Self-assessment): slightly 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.**