

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

1 Identification

- **Product identifier**
- **Trade name:** TEMED
- **Catalog or product number:** 9701410, 1610800, 1610800EDU, 1610801, 1610801EDU, 1610802, 9700106
- **CAS Number:**
110-18-9
- **EC number:**
203-744-6
- **Index number:**
612-103-00-3
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547
(510)741-1000
- **Information department:**
Technical services, customer support
lsg_techserv_us@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.
510-741-1000

2 Hazard(s) identification

- **Classification of the substance or mixture**
 Flam. Liq. 2 H225 Highly flammable liquid and vapor.
 Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Corr. 1B H314 Causes severe skin burns and eye damage.
- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**


GHS02 GHS05 GHS07
- **Signal word** Danger
- **Hazard-determining components of labeling:**
N,N,N',N'-tetramethylethylenediamine
- **Hazard statements**
 H225 Highly flammable liquid and vapor.
 H302+H332 Harmful if swallowed or if inhaled.
 H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 1)

- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:** Contact with acids may cause release of toxic gases
 - **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**
110-18-9 N,N,N',N'-tetramethylethylenediamine
- **Identification number(s):**
- **EC number:** 203-744-6
- **Index number:** 612-103-00-3
- **Additional information:** For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

- **Description of first aid measures**
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After eye contact** Rinse opened eye for several minutes under running water.
- **After swallowing** Induce vomiting and call for medical help.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, 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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 2)

- **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

3.2 ppm

· **PAC-2:**

35 ppm

· **PAC-3:**

58 ppm

7 Handling and storage

- **Handling**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **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.
- **Control parameters**
- **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.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures** Wash hands before breaks and at the end of work.
- **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

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	Light yellow
Odor:	Amine-like
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	118-120 °C

· Flash point: 18 °C

· Flammability (solid, gaseous) Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	0.98 Vol %
Upper:	9.08 Vol %

· Vapor pressure: Not determined.

· Density at 20 °C: 0.78 g/cm³

· Relative density Not determined.

· Vapor density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with

Water: Soluble

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

dynamic: Not determined.

kinematic: Not determined.

Organic solvents: 100.0 %

· Other information No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 4)

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values for hazardous components per OSHA criteria:**
- **110-18-9 N,N,N',N'-tetramethylethylenediamine**
- Oral LD50 1580 mg/kg (rat)
- Dermal LD50 5390 mg/kg (rbt)
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

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

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

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

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation** Dispose of waste in accordance to applicable national, regional, or local regulations.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 5)

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

14 Transport information

· UN-Number	UN2372
· DOT, ADR, IMDG, IATA	
· UN proper shipping name	1,2-DI-(DIMETHYLAMINO ETHANE)
· DOT, IATA	2372 1,2-DI-(DIMETHYLAMINO) ETHANE
· ADR	1,2-DI-(DIMETHYLAMINO) ETHANE
· IMDG	
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	Void Void
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 2372 1,2-DI-(DIMETHYLAMINO)ETHANE, 3, II

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 6)

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- 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

- EPA (Environmental Protection Agency)

Substance is not listed.

- TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

- MAK (German Maximum Workplace Concentration)

Substance is not listed.

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

Substance is not listed.

- National regulations

- Technical instructions (air):

Class	Share in %
NK	50-100

- Water hazard class: Generally not hazardous for water.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 SDS: 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

- Date of preparation / last revision 03/27/2017 / -

- 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 03/27/2017

Reviewed on 03/27/2017

Trade name: TEMED

(Contd. of page 7)

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

US