Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

1 Identification

· **1.1 Product identifier**

· **Trade name: TDM by HPLC, MP 1**

· **Article number:** 1956638
· **Application of the substance / the mixture** In-Vitro-laboratory reagent or component

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Bio-Rad Laboratories, Inc
4000 Alfred Nobel Drive
Hercules, California 94547
USA
Phone: 510-724-7000
Toll-Free: 1-800-2-BIORAD (800-224-6723)
Fax: 510-741-6373

· **Information department:**
Technical Support:
Email: support@bio-rad.com
· **1.4 Emergency telephone number:**
GBK Gefahrgut Büro GmbH
Tel.: 0049(0)6123-84463

2 Hazard(s) identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Flam. Liq. 2 H225 Highly flammable liquid and vapor.
Acute Tox. 5 H303 May be harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 5 H333 May be harmful if inhaled.
Eye Irrit. 2A H319 Causes serious eye irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labeled according to the CLP regulation.
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
acetonitrile
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H303 May be harmful if swallowed.
H312 Harmful in contact with skin.
H333 May be harmful if inhaled.
H319 Causes serious eye irritation.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

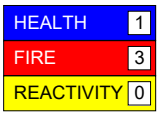
(Contd. of page 1)

P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1
Fire = 3
Reactivity = 0

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
75-05-8	acetonitrile	50-100%

4 First-aid measures

· **4.1 Description of 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.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** Immediately call a doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

(Contd. of page 2)

5 Fire-fighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

*
6 Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **6.3 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.
Ensure adequate ventilation.
· **6.4 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:**		
75-05-8	acetonitrile	13 ppm
16788-57-1	phosphoric acid, dipotassium salt, trihydrate	16 mg/m3
7778-77-0	potassium dihydrogenorthophosphate	9.6 mg/m3

· **PAC-2:**		
75-05-8	acetonitrile	50 ppm
16788-57-1	phosphoric acid, dipotassium salt, trihydrate	180 mg/m3
7778-77-0	potassium dihydrogenorthophosphate	110 mg/m3

· **PAC-3:**		
75-05-8	acetonitrile	150 ppm
16788-57-1	phosphoric acid, dipotassium salt, trihydrate	1,100 mg/m3
7778-77-0	potassium dihydrogenorthophosphate	630 mg/m3

7 Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

(Contd. of page 3)

· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:***
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· ***7.3 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.*

· ***8.1 Control parameters***

· **Components with limit values that require monitoring at the workplace:**	
75-05-8 acetonitrile	
PEL	Long-term value: 70 mg/m³, 40 ppm
REL	Long-term value: 34 mg/m³, 20 ppm
TLV	Long-term value: 34 mg/m³, 20 ppm Skin

· ***Additional information:*** *The lists that were valid during the creation were used as basis.*

· ***8.2 Exposure controls***
· ***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.
Avoid contact with the eyes and skin.
· ***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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· ***Material of gloves***
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· ***Penetration time of glove material***
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 *Reviewed on 02/13/2017*

Trade name: TDM by HPLC, MP 1

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** *Protective work clothing*

9 Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	*Fluid*
Color:	*Colorless*
· **Odor:**	*Characteristic*
· **Odor threshold:**	*Not determined.*
· **pH-value:**	*Not determined.*
· **Change in condition**	
Melting point/Melting range:	*Undetermined.*
Boiling point/Boiling range:	*>78 °C (>172 °F)*
· **Flash point:**	*<15 °C (<59 °F)*
· **Flammability (solid, gaseous):**	*Not applicable.*
· **Ignition temperature:**	*524 °C (975 °F)*
· **Decomposition temperature:**	*Not determined.*
· **Auto igniting:**	*Product is not selfigniting.*
· **Danger of explosion:**	*Product is not explosive. However, formation of explosive air/vapor mixtures are possible.*
· **Explosion limits:**	
Lower:	*3.0 Vol %*
Upper:	*17.0 Vol %*
· **Vapor pressure at 20 °C (68 °F):**	*97 hPa (73 mm Hg)*
· **Density at 20 °C (68 °F):**	*0.92 g/cm³ (7.6774 lbs/gal)*
· **Relative density**	*Not determined.*
· **Vapor density**	*Not determined.*
· **Evaporation rate**	*Not determined.*
· **Solubility in / Miscibility with**	
Water:	*Fully miscible.*
· **Partition coefficient (n-octanol/water):**	*Not determined.*
· **Viscosity:**	
Dynamic:	*Not determined.*
Kinematic:	*Not determined.*
· **9.2 Other information**	*No further relevant information available.*

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

(Contd. of page 5)

10 Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity:**
May be harmful if swallowed.
Harmful in contact with skin.
May be harmful if inhaled.
· **Primary irritant effect:**
· **on the skin:** Based on available data, the classification criteria are not met.
· **on the eye:**
Causes serious eye irritation.
· **Sensitization:** Based on available data, the classification criteria are not met.
· **Additional toxicological information:**

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

(Contd. of page 6)

13 Disposal considerations

· **13.1 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

· **14.1 UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1993
· **14.2 UN proper shipping name**	
· **DOT**	Flammable liquids, n.o.s. (Acetonitrile)
· **ADR**	1993 Flammable liquids, n.o.s. (Acetonitrile), special provision 640D
· **IMDG, IATA**	FLAMMABLE LIQUID, N.O.S. (ACETONITRILE)
· **14.3 Transport hazard class(es)**	
· **DOT**	

· **Class**	3 Flammable liquids
· **Label**	3
· **ADR, IMDG, IATA**	

· **Class**	3 Flammable liquids
· **Label**	3
· **14.4 Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Warning: Flammable liquids
· **Danger code (Kemler):**	33
· **EMS Number:**	F-E,S-E
· **Stowage Category**	B
· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2017 Reviewed on 02/13/2017

Trade name: TDM by HPLC, MP 1

(Contd. of page 7)

· **Transport/Additional information:**

· **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 1993 FLAMMABLE LIQUIDS, N.O.S., SPECIAL PROVISION 640D (ACETONITRILE), 3, II

*
15 Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

75-05-8	acetonitrile

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

75-05-8	acetonitrile
7778-77-0	potassium dihydrogenorthophosphate
7378-99-6	dimethyl(octyl)amine
7732-18-5	water, distilled, conductivity or of similar purity

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

75-05-8	acetonitrile	CBD, D

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

75-05-8	acetonitrile	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Trade name: TDM by HPLC, MP 1

(Contd. of page 8)

· **15.2 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:**
Bio-Rad Laboratories GmbH
Heidemannstrasse 164
D-80939 Munich
· **Contact:**
Technical Support:
E-Mail: cts-ce@bio-rad.com
· **Date of preparation / last revision** 02/13/2017 / 13
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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. 5: Acute toxicity – Category 5
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
· *** Data compared to the previous version altered.**