Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

1 Identification of substance:

· **Product details:**

· **Trade name:** **Protein Assay Dye Reagent Concentrate**

· **Article number:** 5000006, 5000006EDU, 9700067
· **Application of the substance / the preparation** Laboratory chemicals

· **Manufacturer/Supplier:**
Bio-Rad Laboratories Ltd.
5671 McAdam Road
Mississauga, Ontario L4Z 1N9
Canada phone: 1(905)712-2771 fax: 1-905-712-2990

· **Information department:** Technical services, customer support.
· **Emergency information:** 1(905)712-2771

2 Composition/Data on components:

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

· **Dangerous components:**

CAS: 7664-38-2 EINECS: 231-633-2 RTECS: TB 6300000	phosphoric acid	C; R 34	50-100%
CAS: 7732-18-5 EINECS: 231-791-2 RTECS: ZC 0110000	water		20-35%
CAS: 67-56-1 EINECS: 200-659-6 RTECS: PC 1400000	methanol	T, F; R 11-23/24/25-39/23/24/25	10-20%

3 Hazards identification

· **Hazard description:**
T Toxic
· **Information pertaining to particular dangers for man and environment**
R 10 Flammable.
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 34 Causes burns.
R 39 Danger of very serious irreversible effects.
· **Classification system**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

4 First aid measures

· **General information**
Immediately remove any clothing soiled by the product.

(Contd. on page 2)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

Trade name: Protein Assay Dye Reagent Concentrate

(Contd. of page 1)

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

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

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

· **After eye contact** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

· **After swallowing**
Do not induce vomiting; call for medical help immediately.
Call for a doctor immediately.
Drink copious amounts of water and provide fresh air. Call for a doctor immediately.

5 Fire fighting measures

· **Suitable extinguishing agents**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Protective equipment:**
Mount respiratory protective device.
Wear self-contained respiatory protective device.

6 Accidental release measures

· **Person-related safety precautions:** *Wear protective equipment. Keep unprotected persons away.*

· **Measures for environmental protection:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

· **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

7 Handling and storage

· **Handling**

· **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
No special precautions are necessary if used correctly.

· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **Storage**

· **Requirements to be met by storerooms and receptacles:** *No special requirements.*

· **Information about storage in one common storage facility:** *Not required.*

(Contd. on page 3)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

Trade name: Protein Assay Dye Reagent Concentrate

(Contd. of page 2)

· **Further information about storage conditions:** Keep receptacle tightly sealed.

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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:**

7664-38-2 phosphoric acid

EL ()	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³

67-56-1 methanol

EL ()	Short-term value: 250 ppm Long-term value: 200 ppm Skin

· **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.
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.
· **Material of gloves** Synthetic gloves
· **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.
· **Eye protection:** Tightly sealed goggles.

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9 Physical and chemical properties:

· **General Information**

Form:	Fluid
Colour:	Blue
Odour:	Acrid

· **Change in condition**

Melting point/Melting range:	undetermined
Boiling point/Boiling range:	81°C

· **Flash point:**	21 - 55°C
· **Ignition temperature:**	455.0°C
· **Self igniting:**	Product is not selfigniting.

(Contd. on page 4)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

Trade name: Protein Assay Dye Reagent Concentrate

(Contd. of page 3)

· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· **Explosion limits:**	
Lower:	5.5 Vol %
Upper:	44.0 Vol %
· **Vapour pressure at 20°C:**	128.0 hPa
· **Density at 20°C:**	1.28 g/cm³
· **Solubility in / Miscibility with**	
Water:	Fully miscible
· **pH-value at 20°C:**	1.0
· **Solvent content:**	
· **Organic solvents:**	15.5 %
· **Water:**	29.1 %

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 that are relevant for classification:**		
67-56-1 methanol		
Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Caustic effect on skin and mucous membranes.
· **on the eye:** Strong caustic effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
Toxic
Harmful
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
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:

· **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.

(Contd. on page 5)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

Trade name: Protein Assay Dye Reagent Concentrate

(Contd. of page 4)

Must not reach sewage water or drainage ditch undiluted or unneutralized.

13 Disposal considerations

· **Product:**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. 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.*

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14 Transport information

· **Land transport ADR/RID (cross-border)**
· **ADR/RID class:** *3 Flammable liquids.*
· **Danger code (Kemler):** *338*
· **UN-Number:** *2924*
· **Packaging group:** *II*
· **Label** *3+8*
· **Description of goods:** *2924FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, PHOSPHORIC ACID SOLUTION)*

· **Maritime transport IMDG:**
· **IMDG Class:** *3*
· **UN Number:** *2924*
· **Label** *3+8*
· **Packaging group:** *II*
· **EMS Number:** *F-E,S-D*
· **Marine pollutant:** *No*
· **Proper shipping name:** *FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, PHOSPHORIC ACID SOLUTION)*

· **Air transport ICAO-TI and IATA-DGR:**
· **ICAO/IATA Class:** *3*
· **UN/ID Number:** *2924*
· **Label** *3+8*
· **Packaging group:** *III*
· **Proper shipping name:** *FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, PHOSPHORIC ACID SOLUTION)*

15 Regulations

· **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:**
T Toxic

(Contd. on page 6)

Material Safety Data Sheet
According to 91/155 EEC

Printing date 04/04/2005 Reviewed on 04/04/2005

Trade name: Protein Assay Dye Reagent Concentrate

(Contd. of page 5)

· **Hazard-determining components of labelling:**
methanol
phosphoric acid

· **Risk phrases:**
10 Flammable.
20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
34 Causes burns.
39 Danger of very serious irreversible effects.

· **Safety phrases:**
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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 (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.

· **National regulations**
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations

Class	Share in %
I	10-20

· **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.**