

Material Safety Data Sheet Reagent A

FIVEphoton Biochemicals
 10635 Roselle St, Ste C
 San Diego, CA 92121
 Tel. (800) 462-4507
 Fax. (858) 792-7476
technicalsupport@FIVEphoton.com

A. CHEMICAL INFORMATION

Product Name: Western Blotting Chemiluminescence (ECL) Detection Kit Reagent A PCD-500

B. COMPOSITION/INFORMATION ON INGREDIENT

Compound Name	CAS #	% by Weight	Molecular Formula	SARA 313	RTECS Number
Tris(hydroxymethyl)aminomethane	77-86-1	< 5	H ₂ NC(CH ₂ OH) ₃	No	No

C. HAZARDOUS IDENTIFICATION

Emergency Overview	HMIS Rating	NFPA Rating
Harmful (USA) Harmful (EU).	Health: 1	Health: 1
Harmful by inhalation, in contact with the skin and if swallowed.	Flammability: 0	Flammability: 0
	Reactivity: 0	Reactivity:

D. FIRST AID MEASURES

Eye contact: In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

Skin contact: Wash with soap and water. Get medical attention if symptoms appear.

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion: Do not ingest. Get medical attention if symptoms appear.

Protection: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

E. FIRE FIGHTING MEASURES

Flammability of the product: In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable: Use an extinguishing agent suitable for the surrounding fire.

Not suitable: None known

Special exposure hazards: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

F. ACCIDENTAL RELEASE MEASURES

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods For Cleaning Up: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container

for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information for waste disposal.

Small Spills: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

G. HANDLING AND STORAGE

Handling: Put on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

H. EXPOSURE CONTROLS/PERSONAL PROTECTION

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering Controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal Protective Equipment: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

General Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

I. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Physical State: Liquid

PROPERTIES	VALUE	AT TEMPERATURE OR PRESSURE
Molecular Weight	121.14	
pH	8	
BP/C (range)	N/A	
MP/C (range)	850-866	
FREEZING POINT/C	N/A	
VAPOR PRESSURE	N/A	
VAPOR DENSITY	N/A	
SATURATED VAPOR	N/A	
SG/DENSITY	N/A	
BULK DENSITY	N/A	
ODOR THRESHOLD	Odorless	
% VOLATILITY	0	
VOC CONTENT (g/l)	0	
WATER CONTENT	N/A	
SOLVENT CONTENT	N/A	
EVAPORATION RATE	N/A	
VISCOSITY	N/A	

SURFACE TENSION	N/A	
PARTITION COEFFICIENT	N/A	
DECOMPOSITION TEMP	N/A	
FLASH POINT	N/A	
EXPLOSION LIMITS	N/A	
FLAMMABILITY	N/A	
AUTOIGNITION TEMP	N/A	
REFRACTION INDEX	N/A	
OPTICAL ROTATION	N/A	
MISC DATA	N/A	
SOLUBILITY	water	

J. STABILITY AND REACTIVITY

Stability: Stable

Materials to Avoid: N/A.

Hazardous Decomposition Products: Nature of decompositions not know.

Hazardous Polymerization: Will not occur.

K. TOXICOLOGICAL INFORMATION

Product/ingredient name	Result	Species	Dose	Exposure
Tris(hydroxymethyl)aminomethane	LD50 Intravenous	Rat	1800 mg/kg	-
	LD50 Oral	Rat	5900 mg/kg	-

L. ECOLOGICAL INFORMATION

Not Available

M. DISPOSABLE CONSIDERATIONS

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

N. TRANSPORTATION INFORMATION

DOT

Proper Shipping Name: None.

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: non-hazardous for air transport.

O. REGULATORY INFORMATION

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: X

Indication of Danger: Harmful

R: 20/21/22

Risk Statement: Harmful if inhaled, in contact with skin and if swallowed.

S: 22-36

Safety Statements: Do not breath dust. Wear suitable protective clothing.

US Classification and Label Text

Indication of Danger: Harmful (USA) Harmful (EU)

Risk Statement: Harmful by inhalation, in contact with skin



and if swallowed.

Safety Statements: Do not breath dust. Wear suitable protective clothing.

United States Regulatory Information:

Sara Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

P. OTHER INFORMATION

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall FIVEphoton Biochemicals be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if FIVEphoton Biochemicals has been advised of the possibility of such damage.

Material Safety Data Sheet Reagent B

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Tel. (800) 462-4507
Fax. (858) 792-7476
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A. CHEMICAL INFORMATION

Product Name: Western Blotting Chemiluminescence (ECL) Detection Kit Reagent B PCD-500

B. COMPOSITION/INFORMATION ON INGREDIENT

Compound Name	CAS #	% by Weight	Molecular Formula	SARA 313	RTECS Number
Hydrogen Peroxide	7722-84-1	2.97	H ₂ O ₂	No	No
Water	7732-18-5	>97	H ₂ O	No	No

C. HAZARDOUS IDENTIFICATION

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

D. FIRST AID MEASURES

Eye contact: In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if irritation occurs.

Skin contact: Wash with soap and water. Get medical attention if symptoms appear.

Inhalation: If inhaled, remove to fresh air. Get medical attention if symptoms appear.

Ingestion: Do not ingest. Get medical attention if symptoms appear.

Protection: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

E. FIRE FIGHTING MEASURES

Flammable properties

Flash point no data available

Ignition temperature no data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

F. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid breathing vapors, mist or gas.

Environmental precautions Do not let product enter drains.

Methods for cleaning up Keep in suitable, closed containers for disposal.

G. HANDLING AND STORAGE

Handling Normal measures for preventive fire protection.

Storage Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Light sensitive.

H. EXPOSURE CONTROLS/PERSONAL PROTECTION

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering Controls: Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process

enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal Protective Equipment: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

General Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

I. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Physical State: Clear Liquid

PROPERTIES	VALUE	AT TEMPERATURE OR PRESSURE
Molecular Weight	34.02	
pH	N/A	
BP/C (range)	100	
MP/C (range)	0	
FREEZING POINT/C	N/A	
VAPOR PRESSURE	31.1 hPa	30 °C
VAPOR DENSITY	N/A	
SATURATED VAPOR	N/A	
SG/DENSITY	1000 g/cm ³	
BULK DENSITY	N/A	
ODOR THRESHOLD	Odorless	
% VOLATILITY	100	21°C
VOC CONTENT (g/l)	N/A	
WATER CONTENT	N/A	
SOLVENT CONTENT	N/A	
EVAPORATION RATE	N/A	
VISCOSITY	N/A	
SURFACE TENSION	N/A	
PARTITION COEFFICIENT	N/A	
DECOMPOSITION TEMP	N/A	
FLASH POINT	N/A	
EXPLOSION LIMITS	N/A	
FLAMMABILITY	N/A	
AUTOIGNITION TEMP	N/A	
REFRACTION INDEX	N/A	
OPTICAL ROTATION	N/A	
MISC DATA	N/A	
SOLUBILITY	N/A	

J. STABILITY AND REACTIVITY

Stability: Stable

Materials to Avoid: Zinc, Powdered metals, Iron, Copper, Nickel, Brass, Iron and iron salts.

Hazardous Decomposition Products: Nature of decompositions not know.

Hazardous Polymerization: Will not occur.

K. TOXICOLOGICAL INFORMATION

Acute toxicity no data available

Irritation and corrosion no data available

Sensitisation no data available

Chronic exposure

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrogen peroxide)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Ingestion Toxic if swallowed. Causes burns.

Target Organs Eyes, Skin, Respiratory system.

M. DISPOSABLE CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

N. TRANSPORTATION INFORMATION

DOT (US) Not dangerous goods

IMDG Not dangerous goods

IATA Not dangerous goods

O. REGULATORY INFORMATION

Labelling according to EC Directives

Safety datasheet available on request for professional users.

P. OTHER INFORMATION

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall FIVEphoton Biochemicals be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if FIVEphoton Biochemicals has been advised of the possibility of such damage.



Telephone Technical Assistance: (800) 462-4507
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technicalsupport@fivephoton.com
www.FIVEphoton.com