



MSDS for Catalog # 10478

Component	Description
1	Albumin Standard
2	Bradford Protein Assay Reagent

SECTION 1: Product and Company Identification

Identification of the substance or mixture

Catalog #: 10478
Product Name: Bradford Protein Assay with BSA Protein Standard
Component: Albumin Standard

Company Identification

Cepharm Life Sciences Inc.
11830 W Market Place, Suite K
Fulton, MD 20759
USA
Toll Free: 1-800-257-1565
Phone: 410-636-4954

24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Toll Free: 1-800-424-9300/ +1 703-527-3887 CCN 1010970

For Research Use Only. Not for use in diagnostic procedures.

SECTION 2: Hazards identification

OSHA/HCS status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture

Not classified.

GHS label elements

Signal word

No signal word.

Hazard statements

No known significant effects or critical hazards.

Precautionary statements

Prevention: Not applicable.
Response: Not applicable.
Storage: Not applicable.
Disposal: Not applicable.

Hazards not otherwise classified: None known.

SECTION 3: Composition / Information on Ingredients

Substance/mixture

Mixture

Other means of identification

Not available.

CAS number/other identifiers

CAS number: Not applicable.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: First Aid Measures

Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Ingestion	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	No specific data.
Inhalation	No specific data.
Skin contact	No specific data.
Ingestion	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments:	No specific treatment
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training.

SECTION 5: Firefighting Measures

Extinguishing media	
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	No specific data.
Special protective actions for fire-fighters	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.

SECTION 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	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. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
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 and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling & Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	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.

SECTION 8: Exposure Controls / Personal Protection

Control parameters

Occupational exposure limits
None

Appropriate engineering controls
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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.

Eye/face protection
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Liquid, Colorless to light yellow.
b) Odor	Odorless
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	Easily soluble in the following materials: cold water and hot water
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

Other safety information

No data available

SECTION 10: Stability & Reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data
Incompatible materials	No specific data
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

Information on toxicological effects

Acute toxicity

Not available.

Conclusion/Summary

To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Inhalation.

Potential acute health effects

Eye contact:	No known significant effects or critical hazards.
Inhalation:	No known significant effects or critical hazards.
Ingestion:	No known significant effects or critical hazards.
Skin contact:	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact:	No specific data.
Inhalation:	No specific data.
Skin contact:	No specific data.
Ingestion:	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects
Not available.

Potential delayed effects
Not available.

Long term exposure

Potential immediate effects
Not available.

Potential delayed effects
Not available.

Potential chronic health effects

Not available.

General:	No known significant effects or critical hazards.
Carcinogenicity:	No known significant effects or critical hazards.
Mutagenicity:	No known significant effects or critical hazards.
Teratogenicity:	No known significant effects or critical hazards.
Developmental effects:	No known significant effects or critical hazards.
Fertility effects:	No known significant effects or critical hazards.

Numerical measures of toxicity**Acute toxicity estimates**

Not available.

SECTION 12: Ecological Information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (KOC):	Not available.
Other adverse effects:	No known significant effects or critical hazards.

SECTION 13: Disposal Considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport Information

	DOT Classification	IATA
UN Number	Not regulated.	Not regulated.
UN proper shipping name	-	-
Transport hazard class(es)	-	-
Packing group	-	-
Environmental hazards	No.	No.
Additional information	-	-

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

SECTION 15: Regulatory Information

US Federal Regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs): Not listed

Clean Air Act Section 602

Class I Substances: Not listed

Clean Air Act Section 602

Class II Substances: Not listed

DEA List I Chemicals

(Precursor Chemicals): Not listed

DEA List II Chemicals

(Essential Chemicals): Not listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
Sodium azide	0 – 0.1	Yes.	500	-	1000	-

SARA 304 RQ: 2000000 lbs / 908000 kg

SARA 311/312

Classification: Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts: None of the components are listed.
New York: None of the components are listed.
New Jersey: None of the components are listed.
Pennsylvania: None of the components are listed.
Canada inventory: All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals:	Not listed
Chemical Weapons Convention List Schedule II Chemicals:	Not listed
Chemical Weapons Convention List Schedule III Chemicals:	Not listed

SECTION 16: Other Information

Disclaimer:

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

SECTION 1: Product and Company Identification

Identification of the substance or mixture

Catalog #: 10478
Product Name: Bradford Protein Assay with BSA Protein Standard
Component: Bradford Protein Assay Reagent

Company Identification

Cepharm Life Sciences Inc.
705 Digital Drive, Suite S
Linthicum Heights, MD 21090
USA
Toll Free: 1-800-257-1565
Phone: 410-636-4954

24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call: 443-538-9508

For Research Use Only. Not for use in diagnostic procedures.

SECTION 2: Hazards identification

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

ACUTE TOXICITY: ORAL - Category 4
ACUTE TOXICITY: SKIN - Category 4
ACUTE TOXICITY: INHALATION - Category 4
SKIN CORROSION/IRRITATION - Category 1B
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [central nervous system (CNS), eyes, gastrointestinal tract, heart, kidneys, liver, respiratory tract and skin] - Category 2

GHS label elements

Hazard pictograms:



Signal word

Danger

Hazard statements

Harmful if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause damage to organs. (central nervous system (CNS), eyes, gastrointestinal tract, heart, kidneys, liver, respiratory tract, skin)

Precautionary statements

Prevention: Wear protective gloves. Wear eye or face protection. Wear protective clothing. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response: IF exposed or if you feel unwell: Call a POISON CENTER or physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements

Do not taste or swallow. Wash thoroughly after handling.

Hazards not otherwise classified

Causes digestive tract burns

SECTION 3: Composition / Information on Ingredients

Substance/mixture

Mixture

Other means of identification

Not available.

CAS number/other identifiers

CAS number: Not applicable.

Ingredient name	%	CAS number
Phosphoric acid	7 – 10	7664-38-2
Methanol	3 - 5	67-56-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First Aid Measures

Description of necessary first aid measures

Eye contact	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
Inhalation	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	Causes serious eye damage.
Inhalation	Harmful if inhaled. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Skin contact	Causes severe burns. Harmful in contact with skin.
Ingestion	Harmful if swallowed. Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain watering
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Inhalation	redness No specific data.
Skin contact	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion	Adverse symptoms may include the following: stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments:	No specific treatment
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

SECTION 5: Firefighting Measures

Extinguishing media	
Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides phosphorus oxides
Special protective actions for fire-fighters	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.

SECTION 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
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 and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: Handling & Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved
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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.

Advice on general occupational hygiene

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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). 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. Store locked up. 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.

SECTION 8: Exposure Controls / Personal Protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
phosphoric acid	ACGIH (United States) TWA: 1 mg/m ³ STEL: 3 mg/m ³ NIOSH (United States, 0/1994). TWA: 1 mg/m ³ STEL: 3 mg/m ³ OSHA (United States, 0/1989). TWA: 1 mg/m ³ STEL: 3 mg/m ³ ACGIH TLV (United States, 3/2012). STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 8 hours. NIOSH REL (United States, 1/2013). STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 10 hours. OSHA PEL (United States, 6/2010). TWA: 1 mg/m ³ 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 3 mg/m ³ 15 minutes. TWA: 1 mg/m ³ 8 hours.
Methanol	ACGIH (United States, 0/2003). Absorbed through skin. CEIL: 200 ppm ACGIH (United States). Absorbed through skin. STEL: 250 ppm TWA: 200 ppm MSHA (United States). Absorbed through skin. TWA: 260 mg/m ³ NIOSH (United States). Absorbed through skin. STEL: 250 ppm TWA: 200 ppm OSHA (United States, 0/2003). Absorbed through skin. STEL: 250 ppm TWA: 200 ppm ACGIH TLV (United States, 3/2012). Absorbed through skin. STEL: 328 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. NIOSH REL (United States, 1/2013). Absorbed through skin. STEL: 325 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m ³ 10 hours. TWA: 200 ppm 10 hours. OSHA PEL (United States, 6/2010). TWA: 260 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. STEL: 325 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m ³ 8 hours.

Appropriate engineering controls

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

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures**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.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection**Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: Physical and Chemical Properties

Information on basic physical and chemical properties

a) Appearance	Liquid.
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	[Product does not sustain combustion.]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	No data available
l) Vapor density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	no data available
t) Oxidizing properties	No data available

Other safety information

No data available

SECTION 10: Stability & Reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data
Incompatible materials	No specific data
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

Information on toxicological effects

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure
Phosphoric acid	LD50 Dermal	Rabbit	2730 mg/kg	-
	LD50 Oral	Rat	1.25 g/kg	-
Methanol	LC50 Inhalation Gas.	Rat	145000 ppm	1 hours
	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LC50 Inhalation Vapor.	Rat	83.2 mg/l	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-

Irritation/Corrosion

Product / ingredient name	Result	Species	Score	Exposure	Observation
Methanol	Eyes – moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes – moderate irritant	Rabbit	-	40 milligrams	-
	Skin – moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product / ingredient name	OSHA	IARC	NTP
Methanol	None.	-	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Methanol	Category 1	Not determined	central nervous system (CNS), eyes, gastrointestinal tract, heart, kidneys, liver, respiratory tract and skin

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Inhalation, Inhalation.

Potential acute health effects

Eye contact: Causes serious eye damage.
Inhalation: Harmful if inhaled. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system
Ingestion: Harmful if swallowed. Corrosive to the digestive tract. Causes burns. May cause burns to mouth, throat and stomach.
Skin contact: Causes severe burns. Harmful in contact with skin.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
 pain
 watering
 redness
Inhalation: No specific data.
Skin contact: Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion: Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure**Short term exposure**

Potential immediate effects
 Not available.

Potential delayed effects
 Not available.

Long term exposure

Potential immediate effects
 Not available.

Potential delayed effects
 Not available.

Potential chronic health effects

Not available.

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity**Acute toxicity estimates**

Not available.

SECTION 12: Ecological Information**Toxicity**

Product / ingredient name	Result	Species	Exposure
Phosphoric acid Methanol	Acute LC50 138 ppm Fresh water	Fish – Gambusia affinis – Adult	96 hours
	Acute EC50 16.912 mg/l Marine water	Algae – Ulva pertusa	96 hours
	Acute EC50 10000000 ug/l Fresh water	Daphnia – Daphnia magna	48 hours
	Acute LC50 2500000 ug/l Marine water	Crustaceans – Crangon crangon – Adult	48 hours
	Acute LC50 100 mg/l Fresh water	Fish – pimephales promelas – juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 9.96 mg/l Marine water	Algae- Ulva pertusa	96 hours

Persistence and degradability

Product / ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methanol	-	-	Readily

Bioaccumulative potential

Product / ingredient name	LogPow	BCF	Potential
Methanol	-0.77	<10	Low

Mobility in soil

Soil/water partition coefficient (KOC):

Not available.

Other adverse effects:

No known significant effects or critical hazards.



SECTION 13: Disposal Considerations**Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Methanol (I); Methyl alcohol (I)	67-56-1	Listed	U154

SECTION 14: Transport Information

UN Number	DOT Classification	IATA
UN3264	UN3264	UN3264
UN proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid)	Corrosive liquid, acidic, inorganic, n.o.s. (Phosphoric acid)
Transport hazard class(es)	8 	8 
Packing group	II	II
Environmental hazards	No.	No.
Additional information	-	-

Special precautions for user

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

SECTION 15: Regulatory Information**US Federal Regulations**

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 311: Phosphoric acid

Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs): Listed

Clean Air Act Section 602

Class I Substances: Not listed

Clean Air Act Section 602

Class II Substances: Not listed

DEA List I Chemicals

(Precursor Chemicals): Not listed

DEA List II Chemicals

(Essential Chemicals): Not listed

SARA 302/304**Composition/information on ingredients**

No products were found.

SARA 304 RQ:

Not applicable

SARA 311/312**Classification:** Immediate (acute) health hazard**Composition/information on ingredients**

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Phosphoric acid	7 – 10	No.	No.	No.	Yes.	No.
Methanol	3 – 5	Yes.	No.	No.	Yes.	No.

SARA 313

Form R – Reporting requirements	Product name	CAS number	%
	Phosphoric acid	7664-38-2	7 – 10
	Methanol	67-56-1	3 – 5
Supplier notification	Methanol	67-56-1	3 – 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations**Massachusetts:**

The following components are listed: PHOSPHORIC ACID; METHANOL

New York:

The following components are listed: Phosphoric acid; Methanol

New Jersey:

The following components are listed: PHOSPHORIC ACID; dimethyl sulfoxide; METHYL ALCOHOL; METHANOL

Pennsylvania:

The following components are listed: PHOSPHORIC ACID; dimethyl sulfoxide; METHANOL

California Prop. 65**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Methanol	No.	Yes.	No.	No.

Canada inventory: All components are listed or exempted.**Chemical Weapons Convention List Schedule I Chemicals:** Not listed**Chemical Weapons Convention List Schedule II Chemicals:** Not listed**Chemical Weapons Convention List Schedule III Chemicals:** Not listed**SECTION 16: Other Information****Hazardous Material Information System (USA)**

Health	3
Chronic Health Hazard	
Flammability	0
Physical hazards	0

National Fire Protection Association (USA)

Health	3
Flammability	0
Instability / Reactivity	0
Special	

Disclaimer:

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.