

SECTION 1: Product and Company Identification

Identification of the substance or mixture

Product Name: Colorimetric ELISA - AP Substrate
Catalog #: 10638

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: Substance

Chemical Name: disodium 4-nitrophenyl phosphate

Other means of Identification

Phosphoric acid, mono(4-nitrophenyl) ester, sodium salt (1:2); Phosphoric acid, mono (4-nitrophenyl) ester, disodium salt; Phosphoric acid, mono(p-nitrophenyl) ester, disodium salt

CAS number / other identifiers

CAS Number 4264-83-9

| Ingredient name | % | CAS number |
|----------------------------------|--------|------------|
| Disodium 4-nitrophenyl phosphate | 98-100 | 4264-83-9 |

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 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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 and effects, both acute and delayed

Potential acute health effects

Eye contact:

No known significant effects or critical hazards.

Inhalation:

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

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 any immediate medical attention and special treatment needed

Notes to physician:

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments:

No specific treatment.

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11).

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

No specific fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials:

carbon dioxide

carbon monoxide

nitrogen oxides

phosphorus oxides

metal oxide/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. 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:

Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill:

Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. 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 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. 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, particulate filter 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 | Form: solid [crystalline granules] Color: white to yellowish |
| b) Odor | No data available |
| c) Odor Threshold | No data available |
| d) pH | 7 |
| e) Melting point/freezing point | > 250°C (>482°F) |
| f) Initial boiling point and boiling range | > 300°C (>572°F) |
| 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) Vapour pressure | <0.13 kPa (<1 mm Hg) [room temperature] |
| l) Vapour density | > 1 [Air = 1] |
| m) Relative density | No data available |
| n) Water solubility | 100 g/l |
| 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 substance have not been thoroughly investigated.

Irritation / Corrosion

no data available

Sensitization

No data available

Mutagenicity

Not available

Carcinogenicity

Not available

Classification

| Product / ingredient name | OSHA | IARC | NTP |
|----------------------------------|-------|------|-----|
| Disodium 4-nitrophenyl phosphate | None. | - | - |

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, dermal, inhalation

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact: No known significant effects or critical hazards.

Ingestion: 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

Conclusion / Summary: Can cause gastrointestinal disturbances. Exposure can cause stomach pains, vomiting and diarrhea. Can cause dermatitis and pulmonary edema. Effects may be delayed.

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**

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data 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): This material is 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
No products were found.

SARA 304 RQ: Not applicable

SARA 311/312
Classification Not applicable

Composition / information on ingredients
No products were found.

State regulations
Massachusetts: This material is not listed
New York: This material is not listed
New Jersey: This material is not listed.
Pennsylvania: This material is not listed.
Canada Inventory: This material is not listed.

International Regulations
International lists: **Australia inventory (AICS):** This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory: This material is listed or exempted.
Korea inventory: This material is listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.

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

HMIS Rating
Health hazard: 0
Chronic Health Hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating
Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

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.