



## Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 904

Review Date: June 23, 2017

### 1 Identification of substance and company

**Product name:** Mercury ethyl phosphate  
**Product code:** 11341  
**Relevant use and restrictions on use:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: 210-691-2000  
Fax: 210-691-2600  
Web site: www.noahtech.com  
**Emergency information:** CHEMTREC  
800-424-9300

### 2 Hazards identification

#### Emergency Overview:

#### Pictogram(s):



#### Signal word(s):

Danger

#### Hazard statements:

H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled  
H373 - May cause damage to organs through prolonged or repeated exposure  
H410 - Very toxic to aquatic life with long lasting effects

#### Precautionary statements:

P260 - Do not breathe dust / fume / gas / mist / vapours / spray  
P262 - Do not get in eyes, on skin or on clothing  
P264 - Wash skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P273 - Avoid release to the environment  
P280 - Wear protective gloves / protective clothing / eye protection / face protection  
P284 - Wear respiratory protection  
P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician. Rinse mouth.  
P302 + P350 + P310 - IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor / physician  
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor / physician.  
P314 - Get medical advice/ attention if you feel unwell  
P362 + P364 - Take off contaminated clothing and wash before reuse  
P391 - Collect spillage  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up  
P501 - Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified:

None

#### GHS Classification:

Acute toxicity, Oral - 2  
Acute toxicity, Inhalation - 2  
Acute toxicity, Dermal - 1  
Specific target organ toxicity - repeated exposure - 2  
Acute aquatic toxicity - 1  
Chronic aquatic toxicity - 1

#### HMIS ratings (scale 0-4):

Health hazard: 3  
Flammability: 0  
Physical hazard: 0

### 3 Composition/Information on ingredients

**Chemical name:** Mercury ethyl phosphate  
**CAS number:** 2235-25-8  
**EC number:** 218-790-2  
**Formula:**  $(C_2H_5Hg)_2HPO_4$  or  $(C_2H_5Hg)H_2PO_4$   
**Synonyms:** Ethylmercuric phosphate, EMP

4 First aid measures	
<b>After inhalation:</b>	Move victim to fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>After skin contact:</b>	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
<b>After eye contact:</b>	Flush with plenty of water for at least 15 minutes. Consult a physician.
<b>After ingestion:</b>	Never given anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
<b>Information for doctor:</b>	Show this safety data sheet to the doctor in attendance
<b>Symptoms/effects; acute and delayed:</b>	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. In contrast to inorganic mercury compounds, alkyl mercury compounds rapidly pass through the placenta and blood brain barrier. The peripheral and central nervous systems and the kidney are major target organs. Methylmercury poisoning symptoms result primarily from damage to the nervous system. The symptoms are primarily characterized by loss of sensation in the hands and feet and in areas around the mouth, diminution of vision resulting in tunnel vision, ataxia, dysarthria, and hearing loss. Severe poisoning produces blindness, coma and death. There is a latent period of weeks to months before development of the poisoning symptoms. Mercury shows a specificity to damage small nerve cells in the cerebellum and visual cortex. Methylmercury causes degeneration and necrosis of neurons in the focal areas of the cerebral cortex, especially within the visual areas of the occipital cortex and granular layer of the cerebellum. It has been found that methylmercury inhibits protein synthesis in the brain before symptoms of poisoning appear and that recovery of protein synthesis does not occur in granular cells as it does recover in other neuronal cell types. Consumption by pregnant women has caused serious neurological disorders in their offspring resulting in mental retardation with cerebral palsy. Acute exposure to nonlethal levels of methylmercury results in severely depressed lymphocyte response to T-cell mitogens and antibody responses to specific antigenic stimulation.
<b>Immediate medical attention and special treatment needed:</b>	No data available
5 Fire-fighting measures	
<b>Suitable and unsuitable extinguishing agents:</b>	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use extinguishing media most suitable to surrounding fire conditions.
<b>Special hazards caused by the material, its products of combustion or resulting gases:</b>	Oxides of mercury; carbon monoxide and dioxide
<b>Special fire fighting procedures:</b>	Wear self-contained breathing apparatus. Always wear full fire fighting equipment / clothing in fire situations.
<b>Unusual fire and explosion hazard:</b>	No data available
6 Accidental release measures	
<b>Person-related safety precautions:</b>	Wear respiratory protection. Avoid dust formation. Avoid breathing dust, vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe area.
<b>Measures for environmental protection:</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
<b>Measures for cleaning/collecting:</b>	Avoid dusting. Use vacuum equipped with HEPA filter. Keep in suitable, closed containers for disposal.
<b>Additional information:</b>	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information
7 Handling and storage	
<b>Information for safe handling:</b>	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Ensure adequate ventilation.
<b>Information about protection against explosions and fires:</b>	No data available
<b>Storage requirements to be met by storerooms and containers:</b>	Keep container tightly closed in a dry and well-ventilated area. Store in a cool, dry place.
<b>Incompatibility (avoid contact with):</b>	Strong oxidizers Strong acids Moisture and photo sensitive
<b>Further information about storage conditions:</b>	Store in tightly closed containers, away from light
8 Exposure controls/personal protection	
<b>Ventilation requirements:</b>	Handle in hood where possible Glove bag/box under inert gas recommended
<b>Components with exposure limits that require monitoring:</b>	ACGIH TLV: TWA 0.01 mg (Hg) / m3: Central Nervous System impairment Kidney damage Peripheral Nervous System impairment Danger of cutaneous absorption NIOSH REL: TWA 0.05 mg (Hg) / m3: Potential for dermal absorption
<b>General protective and hygienic measures:</b>	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
<b>Personal protective equipment:</b>	
<b>Respiratory protection:</b>	Filter-dust, fume, mist
<b>(Use only NIOSH or CEN approved Equipment)</b>	

<b>Hand protection:</b>	Handle with gloves: Natural rubber / Nitrile / Impervious Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with product.
<b>Eye protection:</b>	Goggles
<b>Skin protection:</b>	Protective work clothing sufficient to prevent contact.
<b>Additional protective equipment:</b>	Emergency eyewash and safety shower.
<b>Precautionary labeling:</b>	Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist or gas Keep container closed Empty container may contain hazardous residues Light sensitive TOXIC - always wear personal protective equipment

## 9 Physical and chemical properties

<b>Physical state:</b>	Crystalline powder
<b>Color:</b>	White to light yellow
<b>Odor:</b>	Garlic like odor
<b>Odor threshold:</b>	No data available
<b>Molecular Weight (Calculated):</b>	555.28 (or 326.64 (C <sub>2</sub> H <sub>5</sub> Hg)H <sub>2</sub> PO <sub>4</sub> )
<b>pH</b>	No data available
<b>Melting point/freezing point/range:</b>	178 - 182 C
<b>Boiling point/range:</b>	No data available
<b>Sublimation temperature/start:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Flammability (solid, gas):</b>	Not flammable
<b>Flash point:</b>	No data available
<b>Autoignition temperature:</b>	No data available
<b>Danger of explosion:</b>	No data available
<b>Flammable limits:</b>	
<b>Lower:</b>	No data available
<b>Upper:</b>	No data available
<b>Evaporation Rate:</b>	No data available
<b>Vapor pressure (mm Hg):</b>	No data available
<b>Vapor density:</b>	No data available
<b>Specific gravity:</b>	1.5
<b>Bulk density:</b>	No data available
<b>Solubility in/Miscibility with water:</b>	Soluble
<b>Partition coefficient n-octanol/water:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Other information:</b>	No data available

## 10 Stability and reactivity

<b>Reactivity:</b>	No data available
<b>Chemical stability:</b>	Stable under recommended storage conditions
<b>Possibility of hazardous reactions:</b>	No data available
<b>Conditions to be avoided:</b>	Heat See section 7 for information on proper handling and storage
<b>Materials to be avoided:</b>	Strong oxidizers Strong acids Moisture and photo sensitive Store in tightly closed containers, away from light
<b>Dangerous reactions:</b>	No data available
<b>Hazardous decomposition products:</b> (thermal and other)	Oxides of mercury; carbon monoxide and dioxide

## 11 Toxicological information

<b>LD/LC50 values that are relevant for classification:</b>	oral-rat LD <sub>50</sub> : 48 mg/kg
<b>Irritation or corrosion of skin:</b>	No data available
<b>Irritation or corrosion of eyes:</b>	No data available
<b>Primary irritant or corrosive effect:</b>	
<b>on the skin:</b>	Mild
<b>on the eye:</b>	Mild
<b>Sensitization:</b>	No data available
<b>Potential health effects:</b>	
<b>Inhalation:</b>	Causes irritation to the lungs and upper respiratory tract
<b>Ingestion:</b>	No data available
<b>Skin:</b>	No data available
<b>Eyes:</b>	No data available
<b>Signs and symptoms of exposure:</b>	Acute and chronic exposure to inorganic mercury can cause salivation with metallic taste, pain on chewing, gingivitis, colitis, stomatitis, kidney damage and central nervous system damage (CNS). CNS damage can cause tremors, convulsive or shaking movements and psychic disturbances such as memory loss, insomnia, loss of confidence, irritability and depression. Ingestion may cause transient

stimulation of CNS followed by depression, vomiting, drowsiness, coma, respiratory failure, convulsions, and sometimes leading to fatal kidney injury. Excessive exposure may result in death.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. In contrast to inorganic mercury compounds, alkyl mercury compounds rapidly pass through the placenta and blood brain barrier. The peripheral and central nervous systems and the kidney are major target organs. Methylmercury poisoning symptoms result primarily from damage to the nervous system. The symptoms are primarily characterized by loss of sensation in the hands and feet and in areas around the mouth, diminution of vision resulting in tunnel vision, ataxia, dysarthria, and hearing loss. Severe poisoning produces blindness, coma and death. There is a latent period of weeks to months before development of the poisoning symptoms. Mercury shows a specificity to damage small nerve cells in the cerebellum and visual cortex. Methylmercury causes degeneration and necrosis of neurons in the focal areas of the cerebral cortex, especially within the visual areas of the occipital cortex and granular layer of the cerebellum. It has been found that methylmercury inhibits protein synthesis in the brain before symptoms of poisoning appear and that recovery of protein synthesis does not occur in granular cells as it does recover in other neuronal cell types. Consumption by pregnant women has caused serious neurological disorders in their offspring resulting in mental retardation with cerebral palsy. Acute exposure to nonlethal levels of methylmercury results in severely depressed lymphocyte response to T-cell mitogens and antibody responses to specific antigenic stimulation.

**Carcinogenicity:**

IARC: Group 3 - Not classifiable as to its carcinogenicity to humans

NTP: No component of this product is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product is identified as a carcinogen or potential carcinogen by OSHA.

**Additional information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

#### 12 Ecotoxicological information

**Toxicity:**

**Toxicity to fish:**

Rainbow trout LC<sub>50</sub>: 1600 ug/L:96H static

**Toxicity to daphnia and other aquatic invertebrates:**

No data available

**Toxicity to algae:**

Green algae-Chlorella LC<sub>50</sub>: 6 ug/L:10D static

**Persistence and degradability:**

**Biodegradability:**

No data available

**Bioaccumulative potential:**

**Bioaccumulation:**

No data available

**Mobility in soil:**

No data available

**Other adverse effects:**

Very toxic to aquatic life with long lasting effects

#### 13 Disposal considerations

**Recommendation:**

Consult state, local or national regulation for proper disposal

Allow professional disposal company to handle waste

Must be specially treated under adherence to official regulations

**Unclean packagings recommendation:**

Disposal must be made according to official regulations

#### 14 Transport information

**Land transport DOT**



**Proper shipping name:**

Mercury compounds, solid, n.o.s.

**Technical name:**

Mercury ethyl phosphate

**DOT Hazard Class:**

6.1

**UN Identification number:**

UN2025

**Label(s):**

Toxic and Marine Pollutant

**Packing group:**

II

**North American Emergency Response**

**Guidebook No.:**

151

**Air transport ICAO-TI and IATA-DGR:**



**Proper shipping name:**

Mercury compounds, solid, n.o.s.

**Technical name:**

Mercury ethyl phosphate

**DOT Hazard Class:**

6.1

**UN Identification number:**

UN2025

**Label(s):**

Toxic (DOT-SP-8249) and Marine Pollutant

**Packing group:**

II

**North American Emergency Response**

**Guidebook No.:**

151

UPS Ground / FedEx Ground



Proper shipping name:	Mercury compounds, solid, n.o.s.
Technical name:	Mercury ethyl phosphate
DOT Hazard Class:	6.1
UN Identification number:	UN2025
Label(s):	DOT-SP-8249
Packing group:	II
North American Emergency Response	
Guidebook No.:	151

UPS Air



Proper shipping name:	Mercury compounds, solid, n.o.s.
Technical name:	Mercury ethyl phosphate
DOT Hazard Class:	6.1
UN Identification number:	UN2025
Label(s):	DOT-SP-8249 and Marine Pollutant
Packing group:	II
North American Emergency Response	
Guidebook No.:	151

#### 15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:	None
SARA Section 311 / 312 hazards:	Acute Health Hazard; Chronic Health Hazard
SARA Section 313 components:	This product contains chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372
California Proposition 65 components:	WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
TSCA:	Product is listed on the TSCA Inventory

#### 16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.