SECTION 1. IDENTIFICATION

Product name : Eastman(TM) Triethyl Phosphate

Product code : 00418-00, P0041800, P0041801, P0041803, P0041804, P0041815, P0041812, P0041813, P0041814, E0041801

Manufacturer or supplier's details
Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive
           Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use
Recommended use : Chemical intermediate
Solvent
Plasticizer

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral) : Category 4

Eye irritation : Category 2A

GHS label elements
Hazard pictograms : !

Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H319 Causes serious eye irritation.

Precautionary Statements : Prevention:
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear eye protection/face protection.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON
CENTER/doctor if you feel unwell. Rinse mouth. 
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water 
for several minutes. Remove contact lenses, if present and easy 
to do. Continue rinsing. 
P337 + P313 If eye irritation persists: Get medical advice/ attention. 

Disposal: 
P501 Dispose of contents/container to an approved waste disposal plant. 

Other hazards 
None known. 

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS 

Components 

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphate</td>
<td>78-40-0</td>
<td>100</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES 

If inhaled: Move to fresh air. 
Treat symptomatically. 
If symptoms persist, call a physician. 

In case of skin contact: Wash off with soap and water. 
If symptoms persist, call a physician. 

In case of eye contact: Remove contact lenses, if present and easy to do. Continue rinsing. 
If eye irritation persists: Get medical advice/attention. 

If swallowed: Seek medical advice. 

Most important symptoms and effects, both acute and delayed: Harmful if swallowed. 
Causes serious eye irritation. 
Harmful if swallowed. 
Causes serious eye irritation. 

Notes to physician: Treat symptomatically. 

SECTION 5. FIRE-FIGHTING MEASURES 

Suitable extinguishing media: Carbon dioxide (CO2) 
Dry chemical 
Water spray 

Unsuitable extinguishing media: Do NOT use water jet.
SAFETY DATA SHEET

Eastman(TM) Triethyl Phosphate

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 PRD</td>
<td>10/22/2019</td>
<td>1500000001062</td>
<td>10/22/2019</td>
<td>09/06/2016</td>
</tr>
</tbody>
</table>

Specific hazards during fire fighting: None known.

Hazardous combustion products: No hazardous combustion products are known.

Further information: None known.

Special protective equipment for fire-fighters: Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions: Avoid release to the environment.

Methods and materials for containment and cleaning up: Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion: None known.

Advice on safe handling: Do not get in eyes. Do not swallow. Wash thoroughly after handling.

Conditions for safe storage: Keep tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl phosphate</td>
<td>78-40-0</td>
<td>TWA</td>
<td>7.45 mg/m3</td>
<td>US WEEL</td>
</tr>
</tbody>
</table>

Engineering measures: Ensure adequate ventilation.

Personal protective equipment

Respiratory protection: Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Hand protection

Remarks : Wear suitable gloves.

Eye protection : Wear safety glasses with side shields (or goggles).
Face-shield
Always wear eye protection when the potential for inadvertent
eye contact with the product cannot be excluded.

Protective measures : Remove respiratory and skin/eye protection only after vapors
have been cleared from the area.
Ensure that eye flushing systems and safety showers are
located close to the working place.
Use personal protective equipment as required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety
practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : mild

Odor Threshold : not determined

pH : not determined

Melting point/range : -69.5 °F / -56.4 °C

Boiling point/boiling range : 408 °F / 209 °C

Flash point : 210 °F / 99 °C

Method: Pensky-Martens closed cup

Evaporation rate : 4.54

Flammability (solid, gas) : Not applicable

Self-ignition : 441 °F / 227 °C
Method: ASTM D2155
846 °F / 452 °C

Upper explosion limit / Upper
flammability limit : 10. %(V)
( 325 °F / 163 °C)
Lower explosion limit / Lower flammability limit: 1.7 % (V) (282 °F / 139 °C)
Vapor pressure: 1.33 mbar (104 °F / 40 °C)
Relative vapor density: 6.3
Relative density: 1.07 (60.1 °F / 15.6 °C)
Solubility(ies)
  Water solubility: completely soluble
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: not determined
Decomposition temperature: Method: DTA
  No exotherm to 500°C
Viscosity
  Viscosity, dynamic: 1.76 mPa.s (68 °F / 20 °C)
  0.82 mPa.s (160 °F / 71 °C)
  Viscosity, kinematic: not determined
Explosive properties: Not classified
Oxidizing properties: Not classified

SECTION 10. STABILITY AND REACTIVITY
Reactivity: None reasonably foreseeable.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Stable
Conditions to avoid: None known.
Incompatible materials: Strong oxidizing agents
Hazardous decomposition products: Carbon dioxide (CO2)
  Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION
Acute toxicity
Harmful if swallowed.
Components:

**Triethyl phosphate:**
- **Acute oral toxicity:** LD50 Oral (Rat): 1,311 mg/kg
  - Assessment: Harmful if swallowed.
- **Acute inhalation toxicity:** LC50 (Rat): > 2050 ppm
  - Exposure time: 6 h
- **Acute dermal toxicity:** LD50 Dermal (Rat): > 2,000 mg/kg
  - Assessment: Not classified

**Skin corrosion/irritation**
Not classified based on available information.

Components:

**Triethyl phosphate:**
- **Species:** Guinea pig
- **Exposure time:** 24 h
- **Assessment:** Not classified
- **Result:** slight

**Serious eye damage/eye irritation**
Causes serious eye irritation.

Components:

**Triethyl phosphate:**
- **Species:** Rabbit
- **Result:** slight
- **Assessment:** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Skin sensitization**
Not classified based on available information.

**Respiratory sensitization**
Not classified based on available information.

Components:

**Triethyl phosphate:**
- **Test Type:** Skin Sensitization
- **Species:** Guinea pig
- **Assessment:** Not classified
- **Result:** non-sensitizing

**Germ cell mutagenicity**
Not classified based on available information.
Components:

Triethyl phosphate:
Genotoxicity in vitro: Test Type: Mutagenicity - Bacterial
Metabolic activation: +/- activation
Method: Bacterial Reverse Mutation Assay
Result: negative

Genotoxicity in vivo: Species: Mouse (Male and Female)
Application Route: intraperitoneal injection
Result: negative

Carcinogenicity
Not classified based on available information.

Components:

Triethyl phosphate:
Remarks: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

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

Reproductive toxicity
Not classified based on available information.

STOT—single exposure
Not classified based on available information.

Components:

Triethyl phosphate:
Assessment: Based on available data, the classification criteria are not met.

STOT—repeated exposure
Not classified based on available information.

Repeated dose toxicity

Components:

Triethyl phosphate:
Species: Rat, male
NOAEL: 335 mg/kg
Exposure time: 120 d

Species: Rat, female
NOAEL: 335 mg/kg
Exposure time: 150 d

Aspiration toxicity
Not classified based on available information.

Components:

Triethyl phosphate:
Not classified

Information on likely routes of exposure

Product:
Inhalation: Remarks: None known.
Skin contact: Remarks: None known.
Eye contact: Remarks: Causes serious eye irritation.
Ingestion: Remarks: Harmful if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Triethyl phosphate:
Toxicity to fish: LC50 (golden orfe): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 2,705 mg/l
Exposure time: 24 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 31.6 mg/l
Exposure time: 21 d

Persistence and degradability

Components:

Triethyl phosphate:
Biodegradability: Result: Readily biodegradable.

Chemical Oxygen Demand (COD): 1.55 mg/l
# SAFETY DATA SHEET

## Eastman(TM) Triethyl Phosphate

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3</td>
<td>10/22/2019</td>
<td>1500000001062</td>
<td>10/22/2019</td>
<td>09/06/2016</td>
</tr>
</tbody>
</table>

### Bioaccumulative potential

**Components:**

**Triethyl phosphate:**

- **Bioaccumulation:** Species: *Cyprinus carpio* (Carp)
- **Bioconcentration factor (BCF):** 1.3
- **Exposure time:** 42 d
- **Concentration:** < 0.1 mg/l
- **Method:** OECD Test Guideline 305

**Mobility in soil**

No data available

**Other adverse effects**

No data available

### SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

- Waste from residues: Dispose of in accordance with local regulations.

### SECTION 14. TRANSPORT INFORMATION

**International Regulations**

- **IATA-DGR:** Not regulated as a dangerous good
- **IMDG-Code:** Not regulated as a dangerous good

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

- **Product name:** TRIETHYL PHOSPHATE
- **Pollution category:** Z
- **Ship type:** 3

**Domestic regulation**

- **49 CFR:** Not regulated as a dangerous good

### SECTION 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.
SAFETY DATA SHEET

Eastman(TM) Triethyl Phosphate

Version 2.3
PRD

Revision Date: 10/22/2019
SDS Number: 150000001062
Date of last issue: 10/22/2019
SDSUS / Z8 / 0001
Date of first issue: 09/06/2016

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards
- Acute toxicity (any route of exposure)
- Serious eye damage or eye irritation

SARA 313
- This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop. 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:
- TCSI: On the inventory, or in compliance with the inventory
- TSCA: All substances listed as active on the TSCA inventory
- AICS: On the inventory, or in compliance with the inventory
- DSL: All components of this product are on the Canadian DSL
- ENCS: On the inventory, or in compliance with the inventory
- ISHL: On the inventory, or in compliance with the inventory
- KECl: On the inventory, or in compliance with the inventory
- PICCS: On the inventory, or in compliance with the inventory
- IECSC: On the inventory, or in compliance with the inventory
- NZIoC: On the inventory, or in compliance with the inventory

TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

HMIS® IV:

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "+" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

US WEEL / TWA : USA. Workplace Environmental Exposure Levels (WEEL)

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; no. s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amend-
SAFETY DATA SHEET

Eastman(TM) Triethyl Phosphate

Revision Date: 10/22/2019
SDS Number: 150000001062
SDSUS / Z8 / 0001
Date of last issue: 10/22/2019
Date of first issue: 09/06/2016

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8