

# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### Product identifier

**Product name:** Skydrol® PE-5

**Product No.:** P341030X

### Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** Hydraulic fluid

**Uses advised against:** None known.

### Details of the supplier of the safety data sheet

#### Manufacturer / Supplier

Eastman Chemical Company  
200 South Wilcox Drive  
Kingsport, TN 37660-5280 US  
+14232292000

Visit our website at [www.EASTMAN.com](http://www.EASTMAN.com) or email [emnmsds@eastman.com](mailto:emnmsds@eastman.com)

### Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

## SECTION 2: Hazards identification

### Hazard Classification:

#### Health Hazards

Acute toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Carcinogenicity	Category 2
Toxic for Reproduction	Category 2

**OSHA Specified Hazards:** not applicable

### Warning label items including precautionary statement:

#### Pictogram:



**Signal Words:** Warning

**Hazard Statement(s):** H302: Harmful if swallowed.  
H315: Causes skin irritation.  
H351: Suspected of causing cancer.  
H361: Suspected of damaging fertility or the unborn child.

**Precautionary Statement:**

**Prevention:** P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:** P301+P312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P308+P313: IF exposed or concerned: Get medical advice/attention.  
P330: Rinse mouth.  
P332+P313: If skin irritation occurs: Get medical advice/attention.  
P362: Take off contaminated clothing.

**Storage:** P405: Store locked up.

**Disposal:** P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Hazard(s) not otherwise classified (HNOC):** None known.

**SECTION 3: Composition/information on ingredients****Substances / Mixtures****General information:**

Chemical name	Concentration	Additional identification	Notes
Tributyl phosphate	58 - 68%	CAS-No.: 126-73-8	#
triisobutyl phosphate	8 - 10%	CAS-No.: 126-71-6	
Phenol, isopropylated, phosphate (3:1)	5 - <10%	CAS-No.: 68937-41-7	
triphenylphosphate	1.3 - 1.9%	CAS-No.: 115-86-6	#
7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester	5.5 - 6.5%	CAS-No.: 62256-00-2	
butylated hydroxytoluene	0.1 - 1%	CAS-No.: 128-37-0	#

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

# This substance has workplace exposure limit(s).

**SECTION 4: First aid measures**

**General:** Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing can take place. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

#### Description of first aid measures

**Inhalation:** In case of inhalation of spray mist: Move person into fresh air and keep at rest. For breathing difficulties, oxygen may be necessary. Consult a physician for specific advice. Persons who have inhaled vapours or smoke fumes have to be put under medical observation for at least 48 hours, due to the delayed appearance of poisoning.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms occur.

**Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Ingestion:** If swallowed, rinse mouth with water (only if the person is conscious). Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person. Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Loosen tight clothing such as a collar, tie, belt or waistband. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms and effects, both acute and delayed:** Eye may become red, tear, and become painful. The product contains a small amount of sensitizing substance which may provoke an allergic reaction among sensitive individuals. Limited evidence of a carcinogenic effect.

#### Indication of any immediate medical attention and special treatment needed

**Hazards:** No data available.

**Treatment:** Treat symptomatically.

### SECTION 5: Firefighting measures

**General Fire Hazards:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Keep upwind. In case of fire and/or explosion do not breathe fumes.

#### Extinguishing media

**Suitable extinguishing media:** Water spray, foam, dry powder or carbon dioxide.

**Unsuitable extinguishing media:** Avoid water in straight hose stream; will scatter and spread fire.

**Special hazards arising from the substance or mixture:** May ignite at high temperature. During fire, gases hazardous to health may be formed. Risk of chemical pneumonia after aspiration. Hazardous Combustion Products : carbon dioxide, carbon monoxide , oxides of phosphorus .

**Advice for firefighters****Special fire fighting procedures:**

In case of fire: Evacuate area. Move container from fire area if it can be done without risk. Use water spray to keep fire-exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Special protective equipment for fire-fighters:**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

No action shall be taken involving any personal risk or without suitable training. Keep unauthorized personnel away. Ventilate closed spaces before entering them. Avoid inhalation of vapors and spray mists. Wear appropriate personal protective equipment. Caution: Contaminated surfaces may be slippery. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Reference to other sections See Section 8 of the SDS for Personal Protective Equipment.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Clear up spills immediately and dispose of waste safely. Do not contaminate water sources or sewer.

**Methods and material for containment and cleaning up:**

Small Liquid Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Large Spillages: Dike for later disposal. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Prevent runoff from entering drains, sewers, or streams.

**Notification Procedures:**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**SECTION 7: Handling and storage:**

**Precautions for safe handling:** Do not handle until all safety precautions have been read and understood. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. An eye wash bottle must be available at the work site. Wear appropriate personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Do not taste or swallow. Do not breathe mist or vapor from heated material. In case of inadequate ventilation, use respiratory protection. Do not get in eyes and avoid contact with skin and clothing. Wash promptly with soap and water if skin becomes contaminated. Remove contaminated clothing and wash it before reuse. Destroy or thoroughly clean contaminated shoes. Drain or remove substance from equipment prior to break-in or maintenance. Handle in accordance with good industrial hygiene and safety practice. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities:** Store in a cool, dry place out of direct sunlight. Keep container tightly closed and in a well-ventilated place. Keep upright. Keep in original container. Store locked up. Store away from incompatible materials. Keep away from food, drink and animal feeding stuffs. Store in accordance with local/regional/national/international regulations.

**Specific end use(s):** [www.EastmanAviationSolutions.com](http://www.EastmanAviationSolutions.com)

**SECTION 8: Exposure controls/personal protection**

**Control Parameters**

**Occupational Exposure Limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical name	type	Exposure Limit Values	Source
Tributyl phosphate - Inhalable fraction and vapor.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (02 2013)
Tributyl phosphate	REL	0.2 ppm 2.5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	0.2 ppm 2.5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
triphenylphosphate	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (01 2010)
	PEL	3 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol - Inhalable fraction and vapor.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (01 2010)

**Exposure controls**

**Appropriate engineering controls:**

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

- General information:** An eye wash bottle must be available at the work site. Provide access to washing facilities including soap, skin cleanser and fatty cream.
- 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. Recommendations: Wear safety glasses with side shields (or goggles). Use safety goggles and face shield in case of splash risk.
- Skin protection**
- Hand Protection:** It is a good industrial hygiene practice to minimize skin contact. If prolonged or repeated contact is likely, chemical resistant gloves are recommended. If contact with forearms is likely, wear gauntlet style gloves. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.
- Other:** 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. Recommendations: Apron or other light protective clothing and boots. If prolonged or repeated contact is likely, chemical resistant clothing is recommended. Promptly remove non-impervious clothing that becomes wet or contaminated.
- Respiratory Protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
- Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash at the end of each work shift and before eating, smoking and using the toilet. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs.
- Environmental 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. Do not contaminate water sources or sewer.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****Appearance**

<b>Physical state:</b>	liquid
<b>Form:</b>	oil
<b>Color:</b>	purple
<b>Odor:</b>	Odorless
<b>Odor Threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting Point</b>	< -62 °C
<b>Boiling Point:</b>	No data available.
<b>Flash Point:</b>	173.8 °C
<b>Evaporation Rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	not applicable
<b>Flammability Limit - Upper (%)-:</b>	No data available.
<b>Flammability Limit - Lower (%)-:</b>	No data available.
<b>Vapor pressure:</b>	0.4 hPa (25 °C)
<b>Vapor density (air=1):</b>	No data available.
<b>Specific Gravity:</b>	0.995 (25 °C)
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	No data available.
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Autoignition Temperature:</b>	426.6 °C (ASTM D2155)
<b>Decomposition Temperature:</b>	No data available.
<b>Dynamic viscosity:</b>	No data available.
<b>Kinematic viscosity:</b>	9.02 - 10.02 mm <sup>2</sup> /s (38 °C)
<b>Explosive properties:</b>	Not classified.
<b>Oxidizing properties:</b>	Not classified.

## SECTION 10: Stability and reactivity

<b>Reactivity:</b>	Material is stable under normal conditions.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	None under normal conditions.
<b>Conditions to Avoid:</b>	None known.
<b>Incompatible Materials:</b>	Strong oxidizing agents.
<b>Hazardous Decomposition Products:</b>	Emits acrid smoke and fumes when heated to decomposition.

## SECTION 11: Toxicological information

### Information on likely routes of exposure

<b>Inhalation:</b>	None known.
<b>Ingestion:</b>	Harmful if swallowed.

**Skin contact:** Causes skin irritation.

**Eye contact:** Eye may become red, tear, and become painful.

### Information on toxicological effects

#### Oral

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Oral LD-50: (rat, Male and Female): 1,553 mg/kg (Acute Oral Toxicity)

Triisobutyl phosphate Oral LD-50: (Rat): > 5,000 mg/kg Not classified.

Phenol, isopropylated, phosphate (3:1) Oral LD-50: (Rat): 2,530 - 5,000 mg/kg Not classified.

triphenylphosphate Oral LD-50: (Rat, Male.): > 6,400 mg/kg

2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate Oral LD-50: (Rat, Male and Female): 4,470 mg/kg

butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol Oral LD-50: (Rat): > 6,000 mg/kg

#### Dermal

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Dermal LD-50: (Rabbit, Male and Female): > 3,100 mg/kg Not classified.

Triisobutyl phosphate Dermal LD-50: (Rabbit): > 5,000 mg/kg Not classified.

Phenol, isopropylated, phosphate (3:1) Dermal LD-50: (Rabbit): > 2,000 mg/kg

triphenylphosphate Dermal LD-50: (Guinea Pig, Male.): > 5,000 mg/kg

2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate Dermal LD-50: (Rabbit, Male and Female): > 7,940 mg/kg

butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol Dermal LD-50: (Guinea Pig): > 20,000 mg/kg

#### Inhalation

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Dusts, mists and fumes: LC50 (Rat, Male and Female, 4 h): 4.242 mg/l Not classified.

Triisobutyl phosphate Dusts, mists and fumes: LC50 (Rat, 4 h): 5.14 mg/l Not classified.

Phenol, isopropylated, phosphate (3:1) Dusts, mists and fumes: LC50 (Rat, 1 h): 200 mg/m<sup>3</sup> Not classified.

#### Repeated dose toxicity

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate NOEL (Mouse(Male and Female), in feed): 75 mg/kg

Triisobutyl phosphate NOEL (Rat(Male.), Oral Study): 68.4 mg/kg

#### Skin Corrosion/Irritation

**Product:** No data available.

**Specified substance(s):**



Tributyl phosphate	Acute Dermal Irritation / Corrosion (Rabbit, 4 h): slight irritation
Triisobutyl phosphate	(Rabbit, 4 h): Slightly irritating.
Phenol, isopropylated, phosphate (3:1)	(Rabbit): Slightly irritating.
triphenylphosphate	(Guinea Pig): Non-irritating to the skin.
2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	(Rabbit, 24 h): slight to moderate irritation
butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol	(Rabbit, 24 h): very slight

### Serious Eye Damage/Eye Irritation

**Product:** No data available.

#### Specified substance(s):

Tributyl phosphate	Acute Eye Irritation / Corrosion (Rabbit, 24 h): slight irritation
Triisobutyl phosphate	(Rabbit): Slight
Phenol, isopropylated, phosphate (3:1)	(Rabbit): none
triphenylphosphate	(Rabbit): Slight
2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	(Rabbit, 24 h): slight irritation
butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol	(Rabbit): none

### Respiratory or Skin Sensitization

**Product:** OECD 429: LLNA (Mouse): Not a skin sensitizer.

### Carcinogenicity

**Product:** No data available.

#### Specified substance(s):

Tributyl phosphate	Rat, Male and Female: Ingestion ; EPA OTS 798.3300 Limited evidence of a carcinogenic effect. IARC Not Listed. NTP Not Listed. OSHA Not Listed.
Triisobutyl phosphate	IARC Not Listed. NTP Not Listed. OSHA Not Listed.
Phenol, isopropylated, phosphate (3:1)	IARC Not Listed. NTP Not Listed. OSHA Not Listed.
triphenylphosphate	IARC Not Listed. NTP Not Listed. OSHA Not Listed.
2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	IARC Not Listed. NTP Not Listed. OSHA Not Listed.
butylated hydroxytoluene, 2,-6-Di-tert-butyl-p-cresol	IARC Not Listed. NTP Not Listed. OSHA Not Listed.

**Toxicity to reproduction****Product:** No data available.**Specified substance(s):**Tributyl phosphate Two Generation Reproductive Toxicity Study (Rat, Male and Female);  
NOAEL: 225 mg/kg; Ingestion; EPA OTS 798.4900Phenol, isopropylated,  
phosphate (3:1) (Rat, Male and Female); NOAEL: 25 mg/kg; Gavage (Oral); Remarks:  
Suspected of damaging fertility.**Developmental toxicity****Product:** No data available.**Specified substance(s):**

Tributyl phosphate Rat; NOAEL: 750 mg/kg; Gavage (Oral); EPA OTS 798.4900

Triisobutyl phosphate Rat; NOAEL: 300 mg/kg

**Germ Cell Mutagenicity****In vitro****Product:** No data available.**Specified substance(s):**Tributyl phosphate Mutagenicity - Bacterial (Bacterial Reverse Mutation Assay): negative  
Mutagenicity - Mammalian (In vitro Mammalian Chromosome Aberration Test):  
equivocal  
Triisobutyl phosphate Salmonella typhimurium assay (Ames test) (Bacterial Reverse Mutation Assay):  
negative  
Phenol, isopropylated,  
phosphate (3:1) Salmonella typhimurium assay (Ames test) (Bacterial Reverse Mutation Assay):  
negative  
Mutagenicity - Mammalian (In vitro Mammalian Cell Gene Mutation Test): equivocal  
2-Ethylhexyl 7-  
oxabicyclo[4.1.0]heptane-3-  
carboxylate Salmonella typhimurium assay (Ames test) (Bacterial Reverse Mutation Assay):  
negative  
Mutagenicity - Mammalian (In vitro Mammalian Chromosome Aberration Test):  
equivocal  
Mutagenicity - Mammalian (In vitro Mammalian Cell Gene Mutation Test): negative**In vivo****Product:** No data available.**Specified substance(s):**Tributyl phosphate Chromosomal aberration (Mammalian Bone Marrow Chromosome Aberration Test)  
oral: gavage (Rat, Male and Female): negative  
Triisobutyl phosphate Chromosomal aberration: negative  
2-Ethylhexyl 7-  
oxabicyclo[4.1.0]heptane-3-  
carboxylate Chromosomal aberration (Mammalian Bone Marrow Chromosome Aberration Test)  
Intraperitoneal (Rat, Male and Female): equivocal**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Specified substance(s):**

Tributyl phosphate Based on available data, the classification criteria are not met.

Triisobutyl phosphate Not classified.

**Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Based on available data, the classification criteria are not met.

Triisobutyl phosphate Not classified.

Phenol, isopropylated, phosphate (3:1) Not classified.

**Aspiration Hazard**

**Product:** No data available.

**Specified substance(s):**

Triisobutyl phosphate Not classified.

2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate not applicable

**Other effects:** No data available.

**SECTION 12: Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish**

**Product:** LC-50 (Oncorhynchus mykiss, 96 h): 5.2 mg/l Read-across from a similar material  
LC-50 (Fathead Minnow, 96 h): 4.8 mg/l Read-across from a similar material

**Aquatic Invertebrates**

**Product:** LC-50 (Daphnia magna, 48 h): 5.8 mg/l Read-across from a similar material

**Chronic hazards to the aquatic environment:**

**Fish**

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate NOEC (Oncorhynchus mykiss, 95 d): 0.82 mg/l  
LOEC : 1.7 mg/l

Phenol, isopropylated, phosphate (3:1) NOEC (Oncorhynchus mykiss, 30 d): 0.037 mg/l

**Aquatic Invertebrates**

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate NOEC (Daphnia magna, 21 d): 1.3 mg/l

**Toxicity to Aquatic Plants**

**Product:** EC-50 (Selenastrum capricornutum, 96 h): 8.2 mg/l Read-across from a similar

material

**Persistence and Degradability**

**Biodegradation**

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Readily biodegradable

Triisobutyl phosphate 70 - 80 % (28 d, Ready Biodegradability: CO2 Evolution Test) Readily biodegradable

Phenol, isopropylated, phosphate (3:1) Not readily degradable.

triphenylphosphate Readily biodegradable

2-Ethylhexyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate Readily biodegradable.

**BOD/COD Ratio**

**Product:** No data available.

**Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

**Product:** No data available.

**Specified substance(s):**

Tributyl phosphate Common Carp, Bioconcentration Factor (BCF): 20 (OECD Guideline Test No. 305: Bioaccumulation in Fish: Aqueous and Dietary Exposure)  
 Bioconcentration Factor (BCF): 35

Triisobutyl phosphate Potential to bioaccumulate is low.

Phenol, isopropylated, phosphate (3:1) Has the potential to bioaccumulate.

**Partition Coefficient n-octanol / water (log Kow)**

**Product:** Log Kow: No data available.

**Mobility in Soil:** No data available.

**Known or predicted distribution to environmental compartments**

Tributyl phosphate Log Koc: 3.344

**Known or predicted distribution to environmental compartments**

Phenol, isopropylated, phosphate (3:1) Log Koc: 3.43 - 3.93

**Other Adverse Effects:** No data available.

**SECTION 13: Disposal considerations****Waste treatment methods**

**General information:** The generation of waste should be avoided or minimized wherever possible.

**Disposal methods:** This product meets the criteria for a synthetic used oil under the U.S. EPA Standards for the Management of Used Oil (40 CFR 279). Those standards govern recycling and disposal in lieu of 40 CFR 260 -272 of the Federal hazardous waste program in states that have adopted these used oil regulations. Consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state. Recycle or burn in accordance with the applicable standards. Do not discharge into drains, water courses or onto the ground.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14: Transport information**

*Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.*

**DOT**

Class 9, Packing Group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities except when shipped by vessel. Contains a marine pollutant.

Marine pollutant.: triphenyl phosphate  
Possible Shipping Description(s):

not regulated

UN 3082 Environmentally hazardous substance, liquid, n.o.s. (triphenyl phosphate) 9  
III

**IMDG - International Maritime Dangerous Goods Code**

Class not regulated  
Marine pollutant.: (triphenyl phosphate)

Possible Shipping Description(s):

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (triphenyl phosphate) 9 III

**IATA**

Class not regulated  
Possible Shipping Description(s):

not regulated

**TDG**

Class not regulated

Possible Shipping Description(s):

not regulated

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture.:**

**SARA 311-312 Hazard Classification(s):**

immediate (acute) health hazard  
delayed (chronic) health hazard

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical List**

NONE

**OSHA:** hazardous

**TSCA (US Toxic Substances Control Act):** All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

**DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act):** All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

**AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme):** All components of this product are listed on AICS or otherwise comply with NICNAS.

**MITI (Japanese Handbook of Existing and New Chemical Substances):** All components of this product are listed in the Handbook or have been approved in Japan by new substance notification.

**ECL (Korean Toxic Substances Control Act):** One or more components of this product are not listed on the Korean inventory.

**Philippines Inventory (PICCS) :** One or more components of this product are not listed on the Philippine inventory.

**Inventory of Existing Chemical Substances in China:** All intentional components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

**SECTION 16: Other information**

**HMIS® Hazard Ratings:** Health - 2\*, Flammability - 1, Chemical Reactivity - 0

*HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.*

**Revision Information:** Not relevant.

**Key literature references and sources for data:** [www.EastmanAviationSolutions.com](http://www.EastmanAviationSolutions.com)

**Training information:** No data available.

**Issue Date:** 09/14/2015

**SDS No.:**

**Disclaimer:** This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.