

**Skydrol® 500B-4 Fire Resistant Hydraulic Fluid**

Version            Revision Date:            SDS Number:            Date of last issue: 02/26/2020  
1.4                07/19/2021                15000093408            Date of first issue: 09/06/2016  
PRD                                               SDSUS / Z8 / 0001

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**SECTION 1. IDENTIFICATION**

Product name                                : Skydrol® 500B-4 Fire Resistant Hydraulic Fluid  
Product code                                : 34101-00, P3410105, P3410100, P3410101, P3410103,  
P3410102, P3410104, P3410106, P3410107

**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                            : Hydraulic fluids  
Restrictions on use                            : None known.

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**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Carcinogenicity                             : Category 2

**GHS label elements**

Hazard pictograms                         : 

Signal Word                                 : Warning  
Hazard Statements                         : H351 Suspected of causing cancer.

Precautionary Statements                : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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**Response:**

P308 + P313 IF exposed or concerned: Get medical advice/attention.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****Components**

Chemical name	CAS-No.	Concentration (% w/w)
Dibutylphenylphosphate	2528-36-1	40 - 70
Tributyl phosphate	126-73-8	19 - 20
Butyl diphenyl phosphate	2752-95-6	10 - 30
7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester	62256-00-2	< 10
butylated hydroxytoluene	128-37-0	0.1 - < 1

**SECTION 4. FIRST AID MEASURES**

- If inhaled : Move to fresh air.  
 If breathing is difficult, give oxygen.  
 Consult a physician if necessary.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.  
 Get medical attention if symptoms occur.  
 Wash contaminated clothing before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
 Get medical attention if symptoms occur.
- If swallowed : Call a physician or poison control center immediately.  
 Do not induce vomiting without medical advice.  
 Rinse mouth.  
 Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Suspected of causing cancer.
- Notes to physician : Treat symptomatically.

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**SECTION 5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : Water spray  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Hazardous combustion products : Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
oxides of phosphorus
- Further information : Use a water spray to cool fully closed containers.  
Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.
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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Ventilate the area.  
Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
Avoid contact with skin and eyes.  
Material can create slippery conditions.  
Wear appropriate personal protective equipment.  
Local authorities should be advised if significant spillages cannot be contained.
- Environmental precautions : Clear up spills immediately and dispose of waste safely.  
Avoid release to the environment.  
Collect spillage.
- 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).
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**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Do not breathe vapors or spray mist.  
Handle product only in closed system or provide appropriate exhaust ventilation at machinery.  
In case of insufficient ventilation, wear suitable respiratory equipment.  
Wear appropriate personal protective equipment.  
Avoid contact with skin, eyes and clothing.
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Wash thoroughly after handling.  
 Wash contaminated clothing before reuse.  
 Drain or remove substance from equipment prior to break-in or maintenance.  
 Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage : Store locked up.  
 Keep container tightly closed in a dry and well-ventilated place.  
 Keep in a cool place away from oxidizing agents.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dibutylphenylphosphate	2528-36-1	TWA	0.3 ppm	ACGIH
Tributyl phosphate	126-73-8	TWA (Inhalable fraction and vapor)	5 mg/m <sup>3</sup>	ACGIH
		TWA	0.2 ppm 2.5 mg/m <sup>3</sup>	NIOSH REL
		TWA	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA	0.2 ppm 2.5 mg/m <sup>3</sup>	OSHA P0

**Engineering measures** : 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.

#### Personal protective equipment

**Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary.  
 Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.  
 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.

Hand protection

Remarks : Contact the glove manufacturer for specific advice on glove

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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.

Eye protection : Wear safety glasses with side shields (or goggles).

Skin and body protection : Wear suitable protective clothing.

Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid, oily

Color : purple

Odor : odorless

Odor Threshold : not determined

pH : No data available

Melting point/range : < -80 °F / -62 °C

Boiling point/boiling range : not determined

Flash point : > 351 °F / 177 °C  
Method: Cleveland open cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Self-ignition : 748 °F / 398 °C  
Method: ASTM D2155

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower flammability limit : not determined

Vapor pressure : 0.27 hPa (77 °F / 25 °C)

Relative vapor density : No data available

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Relative density	:	1.052 - 1.060 (77 °F / 25 °C)
Density	:	1,052 - 1,060 kg/m <sup>3</sup> (77 °F / 25 °C)
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	not determined
Decomposition temperature	:	not determined
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	< 2,900 mm <sup>2</sup> /s (-65 °F / -54 °C)
		11.4 - 12.4 mm <sup>2</sup> /s (100 °F / 38 °C)
		3.68 - 4 mm <sup>2</sup> /s (210 °F / 99 °C)
Explosive properties	:	Not classified
Oxidizing properties	:	Not classified

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Emits acrid smoke and fumes when heated to decomposition.

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**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity	:	LD50 (Rat, male and female): 2,100 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 4.5 mg/l Exposure time: 4 h

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Test atmosphere: vapor  
 Assessment: The substance or mixture has no acute inhalation toxicity  
 Remarks: (highest concentration tested)

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 7,940 mg/kg  
 Assessment: Not classified

### Components:

#### **Dibutylphenylphosphate:**

Acute oral toxicity : Acute toxicity estimate (Rat, male and female): 2,400 - 3,000 mg/kg  
 Assessment: Not classified

Acute inhalation toxicity : LCLo (Rat, male and female): > 5 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist

LC50 (Rat, male and female): > 5 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: Not classified

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 5,000 mg/kg  
 Assessment: Not classified

#### **Tributyl phosphate:**

Acute oral toxicity : LD50 Oral (Rat, male and female): 1,553 mg/kg  
 Assessment: Harmful if swallowed.

LD50 Oral (Rat, male and female): 1,400 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.242 mg/l  
 Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 3,100 mg/kg  
 Assessment: The substance or mixture has no acute dermal toxicity

#### **7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:**

Acute oral toxicity : LD50 Oral (Rat, male and female): 4,470 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 7,940 mg/kg

#### **butylated hydroxytoluene:**

Acute oral toxicity : LD50 Oral (Rat): > 6,000 mg/kg

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Acute dermal toxicity : LD50 Dermal (Guinea pig): > 20,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Species : Rabbit  
Exposure time : 24 h  
Assessment : Not classified as hazardous.  
Result : No skin irritation

**Components:****Dibutylphenylphosphate:**

Species : Rabbit  
Assessment : Not classified

Species : Humans  
Exposure time : 24 h  
Assessment : Not classified

**Tributyl phosphate:**

Species : Rabbit  
Exposure time : 4 h  
Assessment : Causes skin irritation.  
Result : irritating

**7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:**

Species : Rabbit  
Exposure time : 24 h  
Assessment : Not classified as hazardous.  
Result : slight to moderate irritation

**butylated hydroxytoluene:**

Species : Rabbit  
Exposure time : 24 h  
Result : very slight

**Serious eye damage/eye irritation**

Not classified based on available information.

**Product:**

Species : Rabbit  
Exposure time : 24 h  
Assessment : Not classified



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**Components:****Dibutylphenylphosphate:**

Species                                : Rabbit  
Result                                  : slight  
Assessment                             : Not classified

**Tributyl phosphate:**

Species                                : Rabbit  
Result                                  : slight irritation  
Exposure time                         : 24 h  
Assessment                             : Not classified

**7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:**

Species                                : Rabbit  
Result                                  : slight irritation  
Exposure time                         : 24 h  
Assessment                             : Not classified

**butylated hydroxytoluene:**

Species                                : Rabbit  
Result                                  : none

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

Test Type                              : Skin Sensitization  
Assessment                             : Not classified  
Method                                 : Human Repeat Insult Patch Test  
Result                                  : Does not cause skin sensitization.

**Components:****Dibutylphenylphosphate:**

Test Type                              : Human experience  
Species                                 : Humans  
Assessment                             : Not classified  
Result                                  : non-sensitizing

**Tributyl phosphate:**

Test Type                              : Skin Sensitization  
Species                                 : Guinea pig  
Assessment                             : Not classified

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Result : Does not cause skin sensitization.

Test Type : Skin Sensitization  
 Species : Humans  
 Assessment : Not classified  
 Result : Does not cause skin sensitization.

### 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:

Test Type : Skin Sensitization  
 Species : Guinea pig  
 Result : May cause sensitization by skin contact.

### butylated hydroxytoluene:

Test Type : Skin sensitization  
 Species : Guinea pig  
 Result : non-sensitizing

### Germ cell mutagenicity

Not classified based on available information.

### Product:

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)  
 Metabolic activation: +/- activation  
 Method: Bacterial Reverse Mutation Assay  
 Result: negative

Test Type: Mutagenicity - Mammalian  
 Metabolic activation: +/- activation  
 Method: In vitro Mammalian Cell Gene Mutation Test  
 Result: negative  
 GLP: yes

### Components:

#### Dibutylphenylphosphate:

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)  
 Metabolic activation: +/- activation  
 Method: Bacterial Reverse Mutation Assay  
 Result: negative

Test Type: Mutagenicity - Mammalian  
 Metabolic activation: +/- activation  
 Method: In vitro Mammalian Cell Gene Mutation Test  
 Result: negative

Test Type: Chromosome aberration test in vitro  
 Metabolic activation: +/- activation  
 Method: In vitro Mammalian Chromosome Aberration Test  
 Result: negative

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Test Type: Mutagenicity - Mammalian  
Metabolic activation: - activation  
Method: OECD Guideline 482  
Result: negative

Genotoxicity in vivo : Species: Rat (male and female)  
Application Route: intraperitoneal injection  
Result: negative

**Tributyl phosphate:**

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

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Chromosome Aberration Test  
Result: equivocal

Genotoxicity in vivo : Species: Rat (male and female)  
Application Route: oral: gavage  
Method: Mammalian Bone Marrow Chromosome Aberration Test  
Result: negative

**7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:**

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)  
Metabolic activation: +/- activation  
Method: Bacterial Reverse Mutation Assay  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Chromosome Aberration Test  
Result: equivocal

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Method: In vitro Mammalian Cell Gene Mutation Test  
Result: negative

Genotoxicity in vivo : Species: Rat (male and female)  
Application Route: intraperitoneal injection  
Method: Mammalian Bone Marrow Chromosome Aberration Test  
Result: equivocal

**Carcinogenicity**

Suspected of causing cancer.

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**Product:**

Remarks : This information is not available.

**Components:****Tributyl phosphate:**

Species : Rat, male and female  
 Application Route : Ingestion  
 Method : EPA OTS 798.3300  
 Remarks : Limited evidence of a carcinogenic effect.  
 May cause cancer.

**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.

**Product:**

Effects on fertility : Remarks: No data available

**STOT-single exposure**

Not classified based on available information.

**Product:**

Routes of exposure : Inhalation  
 Assessment : Not classified

**Components:****Dibutylphenylphosphate:**

Assessment : Not classified

**Tributyl phosphate:**

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

**STOT-repeated exposure**

Not classified based on available information.

**Product:**

Routes of exposure : Inhalation  
 Target Organs : Blood, Liver  
 Assessment : Not classified

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**Components:****Dibutylphenylphosphate:**

Routes of exposure            : inhalation (dust/mist/fume)  
Target Organs                 : Respiratory system  
Assessment                     : Not classified

**Tributyl phosphate:**

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

**Repeated dose toxicity****Product:**

Species                         : Rat, male and female  
NOAEL                          : 100 mg/m3  
Exposure time                 : 90 days  
Target Organs                 : Blood, Liver

**Components:****Dibutylphenylphosphate:**

Species                         : Rat, male and female  
NOAEL                          : 5 mg/kg  
LOAEL                          : 50 mg/kg  
Application Route             : oral (feed)  
Exposure time                 : 90 days

Species                         : Rat, male and female  
                                     : 5 mg/m3  
Application Route             : Inhalation  
Exposure time                 : 90 days

Species                         : Rabbit, male and female  
NOAEL                          : 100 mg/kg bw/day  
Application Route             : Dermal Study  
Exposure time                 : 21 d

**Tributyl phosphate:**

Species                         : Mouse, male and female  
                                     : 75 mg/kg  
Application Route             : in feed  
Exposure time                 : 90 days

**Aspiration toxicity**

Not classified based on available information.

**Product:**

Not applicable

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**Components:****7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:**

Not applicable

**Routes of exposure****Product:**

Inhalation : Remarks: None known.  
Skin contact : Remarks: None known.  
Eye contact : Remarks: None known.  
Ingestion : Remarks: None known.

**Further information****Product:**

Remarks : None known.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.6 mg/l  
Exposure time: 96 h  
Test Type: EPA-660/3-75-009 Methods for Acute Toxicity Tests with Fish, Macroinvertebrates, and Amphibians, April 1975  
  
EC50 (Pimephales promelas (fathead minnow)): 3.0 mg/l  
Exposure time: 96 h  
Test Type: EPA-660/3-75-009 Methods for Acute Toxicity Tests with Fish, Macroinvertebrates, and Amphibians, April 1975

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 6.5 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 7.8 mg/l  
Exposure time: 72 h

**Components:****Dibutylphenylphosphate:**

Toxicity to fish : LL50 (Cyprinus carpio (Carp)): 1.8 mg/l

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Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.4 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EL50 (Selenastrum capricornutum (green algae)): 9.6 mg/l  
Exposure time: 72 h  
Method: EL50 method of the water accommodated fraction (W.A.F.)

NOELR (Selenastrum capricornutum (green algae)): 3.5 mg/l  
Exposure time: 72 h  
Method: EL50 method of the water accommodated fraction (W.A.F.)

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 0.11 mg/l  
Exposure time: 60 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.106 mg/l  
Exposure time: 21 d

### Tributyl phosphate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 1.1 mg/l  
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.82 mg/l  
Exposure time: 95 d

1.7 mg/l

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.3 mg/l  
Exposure time: 21 d

### 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.9 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.5 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (algae)): 2.6 mg/l  
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (algae)): 0.11 mg/l

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Exposure time: 72 h

Toxicity to microorganisms : EC50: 2.6 mg/l  
Exposure time: 72 h

### butylated hydroxytoluene:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0.57 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.48 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Pseudokirchneriella subcapitata (algae)): > 0.24 mg/l  
plants Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (algae)): 0.24 mg/l  
Exposure time: 72 h

Toxicity to fish (Chronic tox- : NOEC (Oryzias latipes (Orange-red killifish)): 0.053 mg/l  
icity) Exposure time: 30 d

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 0.069 mg/l  
aquatic invertebrates (Chron- Exposure time: 21 d  
ic toxicity)

### Persistence and degradability

#### Product:

Biochemical Oxygen De- : Remarks: No data available  
mand (BOD)

Chemical Oxygen Demand : Remarks: No data available  
(COD)

#### Components:

#### Dibutylphenylphosphate:

Biodegradability : Method: Ready Biodegradability: Manometric Respirometry  
Test

Remarks: Readily biodegradable

Method: Ready Biodegradability: Modified MITI Test (I)  
Remarks: Not readily biodegradable.

#### Tributyl phosphate:

Biodegradability : Result: Readily biodegradable.

#### 7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:

Biodegradability : Concentration: 100 mg/l



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Method: Ready Biodegradability: Modified MITI Test (I)  
Remarks: Readily biodegradable

**Bioaccumulative potential****Components:****Dibutylphenylphosphate:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 35  
Method: OECD Test Guideline 305

**Tributyl phosphate:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 20  
Exposure time: 56 d  
Method: OECD Test Guideline 305

Bioconcentration factor (BCF): 35  
Exposure time: 38 d

Partition coefficient: n-octanol/water : Pow: 10,100

**Mobility in soil**

No data available

**Other adverse effects**

No data available

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

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

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

Not regulated as a dangerous good

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**IMDG-Code**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**Domestic regulation****49 CFR**

Not regulated as a dangerous good

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**SECTION 15. REGULATORY INFORMATION****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.

**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** : Carcinogenicity

**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:**

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

**TSCA list**

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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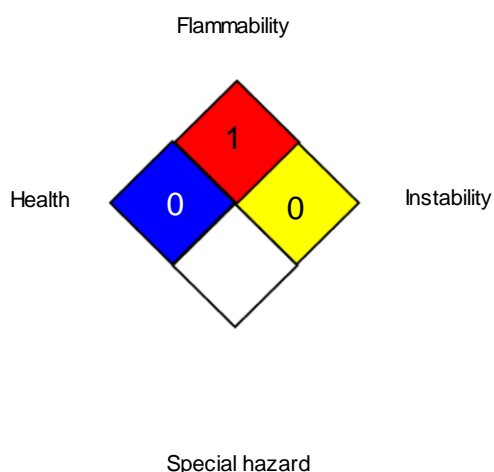
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### SECTION 16. OTHER INFORMATION

#### Further information

##### NFPA 704:



##### HMIS® IV:

HEALTH	*	0
FLAMMABILITY		1
PHYSICAL HAZARD		0

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

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA P0	: USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	: 8-hour time weighted average
OSHA Z-1 / TWA	: 8-hour time weighted average

AIIIC - Australian Inventory of Industrial Chemicals; 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 Chemi-

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icals 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; n.o.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 Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : [www.EastmanAviationSolutions.com](http://www.EastmanAviationSolutions.com)

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The information provided in this 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.

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