SECTION 1. IDENTIFICATION

Product name: Skydrol® 5 Hydraulic Fluid

Product code: 34100-00, P3410005, P3410000, P3410004, P3410003, P3410001, P3410002, P3410006, P3410008, P3410009, E3410001, P3410007

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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin sensitization: Category 1

GHS label elements

Hazard pictograms:

Signal Word: Warning

Hazard Statements: H317 May cause an allergic skin reaction.

Precautionary Statements: Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triisobutyl phosphate</td>
<td>126-71-6</td>
<td>60 - 100</td>
</tr>
<tr>
<td>7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester</td>
<td>62256-00-2</td>
<td>0 - 10</td>
</tr>
<tr>
<td>tert-Butylphenyl diphenyl phosphate</td>
<td>56803-37-3</td>
<td>1 - 5</td>
</tr>
<tr>
<td>triphenylphosphate</td>
<td>115-86-6</td>
<td>1 - 5</td>
</tr>
<tr>
<td>butylated hydroxytoluene</td>
<td>128-37-0</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

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: May cause an allergic skin reaction.

Notes to physician: Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray
Carbon dioxide (CO2)
Dry chemical
Foam
SAFETY DATA SHEET

Skydrol® 5 Hydraulic Fluid

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

Hazardous combustion products : Carbon monoxide
                                    Carbon dioxide (CO2)
                                    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.

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).

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.
                          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
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>triphenylphosphate</td>
<td>115-86-6</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

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: Wear suitable 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.

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.
Appearance : oily

Color : purple

Odor : odorless

Odor Threshold : not determined

pH : not determined

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

Boiling point/boiling range : not determined

Flash point : 309 °F / 154 °C

   Method: Cleveland open cup

Evaporation rate : not determined

Self-ignition : > 750 °F / > 399 °C

   Method: ASTM D2155

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower flammability limit : not determined

Vapor pressure : 0.4 hPa (77 °F / 25 °C)

Relative vapor density : not determined

Relative density : 0.970 - 0.980 (77 °F / 25 °C)

Density : 977 kg/m3 (77 °F / 25 °C)

Solubility(ies)
   Water solubility : slightly soluble

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : not determined

Decomposition temperature : not determined

Viscosity
   Viscosity, dynamic : not determined

Viscosity, kinematic : < 2600 mm2/s (-65 °F / -54 °C)
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.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity: Remarks: No data available
Acute inhalation toxicity: Remarks: No data available
Acute dermal toxicity: Remarks: No data available

Components:
Triisobutyl phosphate:
Acute oral toxicity: LD50 Oral (Rat): > 5,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity: LC50 (Rat): > 5.14 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): > 5,000 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 dermal toxicity: LD50 Dermal (Rabbit, Male and Female): > 7,940 mg/kg

Tert-Butylphenyl diphenyl phosphate:
Acute oral toxicity: LDLo (Rat, Male and Female): 15,800 mg/kg
Assessment: Not classified

Acute inhalation toxicity: LDLo (Rat): > 0.4 mg/l

Acute dermal toxicity: LDLo (Rabbit, Male and Female): > 7,940 mg/kg
Assessment: Not classified

triphenylphosphate:
Acute oral toxicity: LD50 Oral (Rat, male): > 6,400 mg/kg

Acute dermal toxicity: LD50 Dermal (Guinea pig, male): > 5,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Product:
Remarks: No data available

Components:
Triisobutyl phosphate:
Species: Rabbit
Exposure time: 4 h
Result: Mild skin irritation

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

tert-Butylyphenyl diphenyl phosphate:
Species: Rabbit
Assessment: Not classified
Method: Draize Test
Result: slight irritation

triphenylphosphate:
Species: Guinea pig
Remarks: Non-irritating to the skin.
Serious eye damage/eye irritation
Not classified based on available information.

Product:
Remarks : No data available

Components:

Triisobutyl phosphate:
Species : Rabbit
Result : slight
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

tert-Butylphenyl diphenyl phosphate:
Species : Rabbit
Result : slight irritation
Assessment : Not classified

triphenylphosphate:
Species : Rabbit
Result : slight

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

Triisobutyl phosphate:
Test Type : OECD 406: Guinea pig sensitization
Species : Guinea pig
Method : OECD 406: Guinea pig sensitization
Result : May cause sensitization by skin contact.

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.
tert-Butylphenyl diphenyl phosphate:
Test Type: OECD 429: LLNA
Species: Mouse
Assessment: Not classified
Result: sensitizing

Species: Humans
Assessment: Not classified
Result: Not a skin sensitizer.
Remarks: Patch test on human volunteers did not demonstrate sensitization properties.

Germ cell mutagenicity
Not classified based on available information.

Components:

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

Genotoxicity in vivo: 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

tert-Butylphenyl diphenyl phosphate:
Genotoxicity in vitro:
- Test Type: Mutagenicity - Bacterial
  - Method: Bacterial Reverse Mutation Assay
  - Result: negative
Test Type: Mutagenicity - Mammalian
Method: In vitro Mammalian Cell Gene Mutation Test
Result: negative

Test Type: Mutagenicity - Mammalian
Method: Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells
Result: negative

Carcinogenicity
Not classified based on available information.

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

Components:

triphenylphosphate:
Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

STOT-single exposure
Not classified based on available information.

Product:
Routes of exposure : inhalation (dust/mist/fume)
Assessment : Not classified

Components:

Triisobutyl phosphate:
Assessment : Not classified

STOT-repeated exposure
Not classified based on available information.

Product:
Assessment : Not classified
Components:

Triisobutyl phosphate:
Assessment : Not classified

tert-Butylphenyl diphenyl phosphate:
Routes of exposure : Oral
Assessment : Based on available data, the classification criteria are not met.

Repeated dose toxicity

Components:

Triisobutyl phosphate:
Species : Rat, male
Application Route : Oral Study
Exposure time : 90 days

tert-Butylphenyl diphenyl phosphate:
Species : Rat, Male and Female
NOAEL : 107.5 - 124.8 mg/kg
Application Route : Oral Study
Exposure time : 90 days
Remarks : Based on available data, the classification criteria are not met.

Aspiration toxicity
Not classified based on available information.

Product:
No data available

Components:

Triisobutyl phosphate:
Not classified

7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:
Not applicable

Information on likely routes of exposure

Product:
Inhalation : Remarks: None known.

Skin contact : Remarks: May cause an allergic skin reaction.

Eye contact : Remarks: Contact with the eyes may be very painful but does not cause damage.
Ingestion
Remarks: None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish
Remarks: Read-across from a similar material

Exposure time: 96 h
LC50 (Oncorhynchus mykiss (rainbow trout)): 23 mg/l
EC50 (Leuciscus idus (Golden orfe)): 17.8 - 21.5 mg/l
Exposure time: 96 h
Remarks: Read-across from a similar material

Toxicity to daphnia and other aquatic invertebrates
Remarks: Read-across from a similar material

Exposure time: 48 h
(Daphnia magna (Water flea)): 50.5 mg/l
EC50 (Daphnia magna (Water flea)): 11 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants
Remarks: No data available

ErC50 (Scenedesmus subspicatus): 34.1 mg/l
Exposure time: 72 h

Toxicity to fish (Chronic toxicity)
Remarks: No data available

NOEC:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
Remarks: No data available

NOEC:

Toxicity to microorganisms
Remarks: None known.

Exposure time: 28 d
EC50 (Bacteria): 37.2 mg/l

Components:

Triisobutyl phosphate:

Toxicity to fish
Remarks: Read-across from a similar material

Exposure time: 96 h
EC50 (Leuciscus idus (Golden orfe)): 17.8 - 21.5 mg/l

Toxicity to daphnia and other aquatic invertebrates
Remarks: Read-across from a similar material

Exposure time: 48 h
EC50 (Daphnia magna (Water flea)): 11 mg/l

Toxicity to algae/aquatic plants
Remarks: No data available

ErC50 (Scenedesmus subspicatus): 34.1 mg/l
Exposure time: 72 h

Toxicity to microorganisms
Remarks: None known.

Exposure time: 28 d
EC50 (Bacteria): 37.2 mg/l

tert-Butylphenyl diphenyl phosphate:
Toxicity to fish: EC50 (Ictalurus catus (catfish)): 0.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.2 mg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity): 1

triphenylphosphate:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.4 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity): 1

Persistence and degradability

Product:
Biodegradability: Remarks: Expected to be biodegradable

Biochemical Oxygen Demand (BOD): Remarks: No data available

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

Components:

Triisobutyl phosphate:
Biodegradability: Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d
Method: Ready Biodegradability: CO2 Evolution Test

7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 2-ethylhexyl ester:
Biodegradability: Concentration: 100 mg/l
Method: Ready Biodegradability: Modified MITI Test (I)
Remarks: Readily biodegradable

tert-Butylphenyl diphenyl phosphate:
Biodegradability: Result: Readily biodegradable.

triphenylphosphate:
Biodegradability: Result: Readily biodegradable.
Bioaccumulative potential

Product:
Bioaccumulation: Remarks: Bioaccumulation is unlikely.
Read-across from a similar material

Components:

Triisobutyl phosphate:
Bioaccumulation: Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water: log Pow: 3.72

tert-Butylphenyl diphenyl phosphate:
Bioaccumulation: Species: Fish
Bioconcentration factor (BCF): 1,850

triphenylphosphate:
Partition coefficient: n-octanol/water: log Pow: 4.63

Mobility in soil
No data available

Other adverse effects
No data available

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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
UN/ID No.: UN 3082
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (triphenyl phosphate)
Class: 9  
Packing group: III  
Labels: Class 9 - Miscellaneous dangerous substances and articles  
Packing instruction (cargo aircraft): 964  
Packing instruction (passenger aircraft): 964  
Remarks: Shipping in package sizes of less than 5 L (liquids) or 5 KG (solids) may lead to a non-regulated classification.

**IMDG-Code**

- UN number: UN 3082  
- Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (triphenyl phosphate)

Class: 9  
Packing group: III  
Labels: 9  
EmS Code: F-A, S-F  
Marine pollutant: yes  
Remarks: Shipping in package sizes of less than 5 L (liquids) or 5 KG (solids) may lead to a non-regulated classification.

**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**

- UN/ID/NA number: UN 3082  
- Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (triphenyl phosphate)  
Class: 9  
Packing group: III  
Labels: Class 9 - Miscellaneous dangerous substances and articles  
ERG Code: 171  
Marine pollutant: yes(triphenyl phosphate)  
Remarks: Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.
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.

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 : Respiratory or skin sensitization

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 : Not listed
TSCA : All substances listed as active on the TSCA inventory
DSL : All components of this product are on the Canadian DSL
ISHL : Not listed
AICS : On the inventory, or in compliance with the inventory
KECI : Not listed
PICCS : Not listed
ENCS : On the inventory, or in compliance with the inventory
NZIoC : Not listed
IECSC : On the inventory, or in compliance with the inventory

TSCA list
The following substance(s) is/are subject to a Significant New Use Rule:
Potassium decafluoro(pentafluoroethyl)cyclohexanesulphonate 67584-42-3

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

Further information

**NFPA 704:**
- Flammability: 1
- Health: 2
- Instability: 0

**HMIS® IV:**
- HEALTH: 2
- 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

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; E lx - 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; 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; 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

Revision Date: 01/14/2020

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.