

# Solutia Inc.

## Material Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: MCS®-2361 Fire resistant hydraulic fluid

Reference Number: 000000000140

Date: 11/13/2007

#### Company Information:

#### United States:

Solutia Inc.  
575 Maryville Center Drive, P.O. Box 66760  
St. Louis, MO 63166-6760  
Emergency telephone: Chemtrec: 1-800-424-9300  
International Emergency telephone: Chemtrec: 703-527-3887  
Non-Emergency telephone: 1-314-674-6661

#### Canada:

Solutia Canada Inc.  
6800 St. Patrick Street  
LaSalle, PQ H8N 2H3  
Emergency telephone: CANUTEC: 1-613-996-6666  
Non-Emergency telephone: 1-314-674-6661

#### Mexico:

Solutia MEXICO, S. DE R.L. DE C.V.  
Prol. Paseo de la Reforma 2654  
Local 501, Piso-5  
Col. Lomas Altas  
11950 Mexico, D.F.  
Emergency telephone: SETIQ: (in Mexico) 01-800-002-1400  
Non-Emergency telephone: (in Mexico) 01-55-5259-6800

#### Brazil:

Solutia Brazil Ltd.  
Avenue Carlos Marcondes, 1200  
CEP: 12241-420-São José dos Campos/SP-Brazil  
Emergency telephone: 55 12 3932 7100 (PABX)  
Non-Emergency telephone: 55 11 3146 1800 (PABX)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Form: liquid  
Colour: clear to blue  
Odour: odourless

#### WARNING STATEMENTS

##### WARNING!

Causes skin irritation

Elevated processing temperatures may cause release of toxic vapours which are harmful if inhaled

#### POTENTIAL HEALTH EFFECTS

Likely routes of exposure: inhalation  
eye and skin contact

Eye contact: No more than slightly irritating to eyes.

Skin contact: Highly irritating to skin.  
No more than slightly toxic if absorbed.

Inhalation: Elevated processing temperatures may cause release of vapours which are harmful if inhaled.

Ingestion: No more than slightly toxic if swallowed.  
Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.

Refer to Section 11 for toxicological information.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS No.</u>	<u>Average concentration</u>	<u>Concentration range</u>	<u>Units</u>
2-ethylhexyl diphenyl phosphate	1241-94-7		>90.0	%
bis(2-ethylhexyl) phenyl phosphate	16368-97-1		<5.0	%
triphenyl phosphate	115-86-6		<5.0	%

### 4. FIRST AID MEASURES

If in eyes: Immediate first aid is not likely to be required.  
This material can be removed with water.

If on skin: Immediately flush the area with plenty of water.  
Remove contaminated clothing.  
Get medical attention.  
Wash clothing before reuse.

If inhaled: Remove patient to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult give oxygen.  
Remove material from eyes, skin and clothing.

If swallowed: Immediate first aid is not likely to be required.  
A physician or Poison Control Center can be contacted for advice.  
Wash heavily contaminated clothing before reuse.

### 5. FIRE FIGHTING MEASURES

Fire point: 244 C Cleveland Open Cup

Hazardous products of combustion: carbon monoxide (CO); carbon dioxide; soot; smoke; phosphorus oxides (PxOy)

Extinguishing media: Water spray, foam, dry chemical, or carbon dioxide

Unusual fire and explosion hazards: None known

Fire fighting equipment: Firefighters, and others exposed, wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protection recommended in section 8.

Environmental precautions: Keep out of drains and water courses.

Methods for cleaning up: Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

## 7. HANDLING AND STORAGE

### Handling

Avoid contact with eyes, skin and clothing.

Avoid breathing vapour or mist.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

Emptied containers retain vapour and product residue. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. Do not reuse this container.

### Storage

Temperature: 0 - 79 C

General: Store in a cool dry place, away from foodstuffs and acids.  
Stable under normal conditions of handling and storage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne exposure limits: (ml/m<sup>3</sup> = ppm)

MCS®-2361 No specific occupational exposure limit has been established.

triphenyl phosphate ACGIH TLV: 3 mg/m<sup>3</sup> ; ; 8-hr TWA  
OSHA PEL: 3 mg/m<sup>3</sup> ; ; 8-hr TWA  
Mexican OEL: 3 mg/m<sup>3</sup> ; ; 8-hr TWA  
Mexican OEL: 6 mg/m<sup>3</sup> ; ; 15-min STEL

Eye protection: Does not cause significant eye irritation or eye toxicity requiring special protection.  
Use good industrial practice to avoid eye contact.

Hand protection: Wear chemical resistant gloves.  
Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application.

- Body protection:** Wear suitable protective clothing.  
Wear full protective clothing if exposed to splashes.  
Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application.  
Wash contaminated skin promptly.  
Launder contaminated clothing and clean protective equipment before reuse.  
Wash thoroughly after handling.  
Have safety shower available at locations where skin contact can occur.
- Respiratory protection:** Avoid breathing vapour or mist.  
Use approved respiratory protection equipment when airborne exposure limits are exceeded.  
Consult the respirator manufacturer to determine the appropriate type of equipment for a given application.  
Observe respirator use limitations specified by the manufacturer.
- Ventilation:** Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits.  
If practical, use local mechanical exhaust ventilation at sources of air contamination such as processing equipment.

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Flash point:	229 C	Cleveland Open Cup
Specific gravity:	1.085 - 1.095 @ 25 C	
Boiling point :	375 C @ 1,013 hPa	
Water solubility:	negligible	
Viscosity :	9.8 - 10.6 mPa.s @ 38 C	
Vapour density (air=1):	> 1	

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

## 10. STABILITY AND REACTIVITY

- Conditions to avoid:** Elevated temperatures
- Materials to avoid:** Contact with strong oxidizing agents.
- Hazardous reactions:** Hazardous polymerization does not occur.
- Decomposition:** Decomposition occurs at elevated temperatures.
- Decomposition temperature:** 79 C
- Hazardous decomposition** phosphorus oxides (P<sub>x</sub>O<sub>y</sub>);

products:

## 11. TOXICOLOGICAL INFORMATION

This product has not been tested for toxicity, but data obtained on similar products are summarized below:

### Acute animal toxicity data

Oral:	LD50 , rat, > 15,800 mg/kg , Practically nontoxic following oral administration.
Dermal:	LD50 , rabbit, > 7,940 mg/kg , Practically nontoxic after skin application in animal studies.
Inhalation:	LC50 , mouse, 3 mg/l , , vapour LC50 , rat, > 4.8 mg/l , ,
Eye irritation:	rabbit , Practically non-irritating to eyes, 24 h
Skin irritation:	rabbit , Slightly irritating to skin., 24 h
Skin sensitization:	Human experience , Predictive patch testing on human volunteers produced primary irritation but no allergic skin reactions.
Repeat dose toxicity:	rat , , diet, 52 weeks , , Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
Repeat dose toxicity:	dog, , diet, 52 weeks , , Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
Neurotoxicity:	chicken, gavage, acute, No adverse treatment related effects.
Developmental toxicity:	rat, diet , No effects on offspring observed in laboratory animals in the presence of maternal toxicity.
Mutagenicity:	The active ingredient generally produced no genetic changes in standard tests using animal, bacterial or yeast cells.

### Components

Data from Solutia studies and/or the available scientific literature on the components of this material which have been identified as hazardous chemicals under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Hazardous Products Act are discussed below if present.

2-ethylhexyl diphenyl phosphate	Practically nontoxic following oral administration. Practically nontoxic after skin application in animal studies. Practically non irritating to eyes (rabbit). Practically non irritating to skin (rabbit). Practically nontoxic based on animal inhalation exposure studies. Predictive patch testing on human volunteers did not produce irritation or sensitization. Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies. No delayed neurotoxicity was observed in animal models.
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No effects on offspring observed in laboratory animals in the presence of maternal toxicity.  
The weight of the evidence indicates that this material is not mutagenic in in-vitro assays.  
The weight of the evidence indicates that this material is not mutagenic in in vivo assays.

triphenyl phosphate      Practically nontoxic following oral administration.  
Practically nontoxic after skin application in animal studies.  
Practically non irritating to skin (rabbit).  
Practically non irritating to eyes (rabbit).  
No delayed neurotoxicity was observed in animal models.  
Not carcinogenic.  
No birth defects were noted in rats given the active ingredient orally during pregnancy.  
The weight of the evidence indicates that this material is not mutagenic in in-vitro assays.  
Produced cholinesterase inhibition (brain, blood cell, and/or plasma) without signs of overt enzyme inhibition.

## 12. ECOLOGICAL INFORMATION

Solutia has not conducted environmental toxicity or biodegradation studies with this material.

## 13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status:      This material when discarded may be a hazardous waste as that term is defined by the Resource Conservation and Recovery Act (RCRA), 40 CFR 261.24, due to its toxicity characteristic. This material should be analyzed in accordance with Method 1311.

Disposal considerations:      Recycle  
Incineration

Miscellaneous advice:      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.  
This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

## 14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

### US DOT

Proper shipping name:      ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
*triphenyl phosphate*

Hazard Class:                      9

Hazard Identification number:      UN3082

Packing Group:                      Packing Group III

Transport label:                      Class 9

Special provisions:                      This material meets the definition of a marine pollutant.

Other: Applies ONLY to shipments via water transportation.

Canadian TDG

Special provisions: This material meets the definition of a marine pollutant.  
Other: Not regulated for transport.

## 15. REGULATORY INFORMATION

All components are in compliance with U.S. TSCA, EU EINECS, Canadian DSL, Australian AICS  
the following inventories:

Canadian WHMIS classification: D2(B) - Materials Causing Other Toxic Effects

SARA Hazard Notification:

Hazard Categories Under Title III Immediate  
Rules (40 CFR 370):

Section 302 Extremely Hazardous Not applicable  
Substances:

Section 313 Toxic Chemical(s): Not applicable

CERCLA Reportable Quantity:

Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

Safety data sheet also created in accordance with Brazilian law NBR 14725

## 16. OTHER INFORMATION

Product use: Hydraulic fluids and additives

Reason for revision: Routine review and update

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	1	1	0	
Suggested HMIS Rating:	1	1	0	G

Prepared by the Solutia Hazard Communication Group. Please consult Solutia @ 314-674-6661 if further information is needed.

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