

# Solutia Inc.

## Material Safety Data Sheet

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DEQUEST® 2010 Deflocculant & Sequestrant

Reference Number: 00000000109 Date: 04/24/2006

#### 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 3365 1800 (PABX)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Form: liquid  
Colour: clear to yellow  
Odour: characteristic

#### WARNING STATEMENTS

DANGER!  
Causes eye burns  
Corrosive to mild steel

#### POTENTIAL HEALTH EFFECTS

Likely routes of exposure: eye and skin contact

Eye contact: Causes eye burns.  
Injury may be permanent.

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

Inhalation: No information available.

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>
1-hydroxy ethylidene-1,1-diphosphonic acid	2809-21-4		>=58.0 - <=62.0	%
phosphonic acid	13598-36-2		<=4.0	%
water	7732-18-5			%

Phosphonate component expressed as active acid.

### 4. FIRST AID MEASURES

If in eyes: Immediately flush with plenty of water for at least 15 minutes.  
If easy to do, remove any contact lenses.  
Get medical attention.  
Remove material from skin and clothing.

If on skin: Immediate first aid is not likely to be required.  
This material can be removed with water.  
Wash heavily contaminated clothing before reuse.

If inhaled: Immediate first aid is not likely to be required.  
If symptoms occur, remove to fresh air.  
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

Hazardous products of combustion: carbon monoxide (CO); carbon dioxide; phosphines

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

Unusual fire and explosion hazards: Decomposes in a fire giving off irritant fumes.

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. Neutralize washings with soda ash or lime. Flush spill area with water.

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

## 7. HANDLING AND STORAGE

### Handling

Do not get in eyes, on skin, or on 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. The reuse of this material's container for non industrial purposes is prohibited and any reuse must be in consideration of the data provided in this material safety data sheet.

### Storage

Temperature: > 0 C

Suitable materials of construction: glass lining; PVC; polypropylene; glass reinforced plastic; polyethylene

Unsuitable materials of construction: mild steel; carbon steel; aluminum; other metals

General: Freeze sensitive.  
Keep in a cool, dry, well ventilated place.  
Stable under normal conditions of handling and storage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

DEQUEST® 2010 No specific occupational exposure limit has been established.

Eye protection: Wear chemical goggles.  
Have eye wash facilities immediately available at any location where eye contact can occur.

Hand protection: Although this product does not present a significant skin concern, minimize skin contamination by following good industrial practice.

Wearing protective gloves is recommended.  
Consult the glove/clothing manufacturer to determine the appropriate type  
glove/clothing for a given application.

Body protection: Although this product does not present a significant skin concern, minimize skin  
contamination by following good industrial practice.  
Wash thoroughly after handling.

Respiratory protection: Avoid breathing vapour or mist.  
Use approved respiratory protection equipment when airborne exposure is excessive.  
If used, full facepiece replaces the need for face shield and/or chemical goggles.  
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 minimize exposure.  
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: Non flammable aqueous solution

Specific gravity: 1.45 @ 20 C

pH: <2.0 Conditions 10 g/l @ 25 C

Freezing point : -25 C

Water solubility: completely miscible

Viscosity : 46.0 mPa.s @ 20 C  
20.2 mPa.s @ 40 C  
10.3 mPa.s @ 60 C  
5.0 mPa.s @ 90 C

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: Do not expose to extreme temperatures.

Materials to avoid: Attacks many metals.  
Corrosive to aluminum and mild steel.  
Contact with strong oxidizing agents.  
Contact with strong bases.

Hazardous reactions: Hazardous polymerization does not occur.

Hazardous decomposition products: carbon monoxide (CO); carbon dioxide; phosphorus oxides (P<sub>x</sub>O<sub>y</sub>); phosphines

## 11. TOXICOLOGICAL INFORMATION

This product has been tested for toxicity. Results from Solutia sponsored studies or from the available public literature are described below.

### Acute animal toxicity data

Oral:	LD50 , rat, 2,400 mg/kg , Slightly toxic following oral administration.
Dermal:	LD50 , rabbit, 7,940 mg/kg , Practically nontoxic after skin application in animal studies.
Eye irritation:	rabbit , Corrosive,
Skin irritation:	rabbit , Practically non irritating to skin (rabbit),. 24 h
Repeat dose toxicity:	rat & dog, , diet, subchronic, , Minor effects (less than lesions) were present in some animals at the end of the observation period.
Repeat dose toxicity:	rat & dog, , diet, chronic, , Minor effects (less than lesions) were present in some animals at the end of the observation period.
Repeat dose toxicity: Target organs affected	dog, , subcutaneous, chronic, , Adverse effects observed in repeat dose studies. bone
Developmental toxicity:	rat & rabbit, gavage, , No birth defects were noted in rats given the active ingredient orally during pregnancy.
Reproductive toxicity:	rat, diet, 2 generation, This material had no effect on reproduction or fertility.
Mutagenicity:	No genetic effects were observed in standard tests using bacterial and animal 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.

1-hydroxy ethylidene- 1,1-diphosphonic acid	Slightly toxic following oral administration. Practically nontoxic after skin application in animal studies. Corrosive to eyes (rabbit). Practically non irritating to skin (rabbit). Slight effects on bone mineralization were noted following subcutaneous injection. No birth defects were noted in rats given the active ingredient orally during pregnancy. This material had no effect on reproduction or fertility. No genetic effects were observed in standard tests using bacterial and animal cells.
phosphonic acid	Slightly toxic following oral administration. Slightly toxic after skin application in animal studies.

Corrosive to eyes (rabbit).  
Corrosive to skin (rabbit).  
The weight of the evidence indicates that this material is not mutagenic in in-vitro assays.

## 12. ECOLOGICAL INFORMATION

### Environmental Toxicity

Invertebrates	48 h, EC50	Water flea ( <i>Daphnia magna</i> )	527 mg/l
Fish:	96 h, LC50	Rainbow trout ( <i>Oncorhynchus mykiss</i> )	368 mg/l
	96 h, LC50	Bluegill sunfish ( <i>Lepomis macrochirus</i> )	868 mg/l
Algae:	96 h, EC50	Algae	7.2 mg/l

Algal growth inhibition is due to ability of this product to complex materials not to toxicity per se.

### Environmental fate

Biodegradation	Zahn-Wellens	Dissolved Organic Carbon removed	33 %	28 d
	Modified OECD	Screening theoretical CO2 evolution	2 %	70 d
	Modified SCAS	Dissolved Organic Carbon removed	90 %	
	Closed Bottle	BOD30/COD	5 %	
	Degrades after acclimatization			

Partitioning coefficient (octanol/water):	-3.5
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Bioconcentration factor (BCF):	not expected to bioaccumulate.
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## 13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status: This material when discarded is a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. See disposal considerations below for U.S. EPA disposal requirements. Consult regulatory officials for performance standards.

US EPA RCRA hazardous waste number:	D002	Compound/Characteristic:	Corrosivity
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Disposal considerations: Deactivation  
Consult 40 CFR 268.48 for concentration based standards.

Miscellaneous advice: Local, state, provincial, and national disposal regulations may be more or less stringent. Consult your attorney or appropriate regulatory officials for information on such disposal.  
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: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
*phosphonic acid*  
Hazard Class: 8  
Hazard Identification number: UN3265  
Packing Group: Packing Group III  
Transport label: Corrosive

Canadian TDG

Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
*phosphonic acid*  
Hazard Class: 8  
Hazard Identification number: UN3265  
Packing Group: Packing Group III  
Transport label: Corrosive

ICAO/IATA Class

Other: See DOT Information

## 15. REGULATORY INFORMATION

All components are in compliance with the following inventories: U.S. TSCA, Canadian DSL, EU EINECS, Australian AICS, Korean, Japanese ENCS, Phillipine PICCS, Chinese

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

SARA Hazard Notification:

Hazard Categories Under Title III Rules (40 CFR 370): Immediate  
Section 302 Extremely Hazardous Substances: Not applicable  
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: Cleaning/washing agents and disinfectants, Complexing agents, Corrosion inhibitors, Cosmetics, Pharmaceuticals, Scale inhibition

Reason for revision: Significant changes to the following section(s):, Section 1

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	3	1	1	
Suggested HMIS Rating:	3	1	1	H

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

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