


**MATERIAL SAFETY DATA SHEET**  
**ZELECO® UN DLC®-A**

Date Revised: December 4, 2000

Page 1 of 4

**SECTION I - PRODUCT AND COMPANY IDENTIFICATION**

TRADE NAME: ZELEC UN DLC-A  
CHEMICAL NAME: Phosphate ester on silicon dioxide

Company:  NATROCHEM, INC.  
P.O. Box 1205  
Savannah, GA 31402-1205

HMIS RATING	
HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

Telephone Numbers:  
Transportation Emergencies:  
CHEMTREC (U.S.A.): (800) 424-9300 (24 hours)  
CHEMTREC (International): (202) 483-7616 (24 hours, call collect)  
Product Information: (912) 236-4464 (EST, 8:00AM - 4:00PM M-F)

**SECTION II - COMPONENTS**

COMPONENT NAME	CAS#	PEL	TLV	TWA
Silicon Dioxide	7631-86-9	N/DA	N/DA	6mg/m3 (OSHA) 10mg/m3 (ACGIH)
Phosphate ester	Confidential			

**SECTION III - PHYSICAL DATA**

Boiling Point: > 212°F  
Vapor Pressure (mm Hg): N/DA  
Vapor Density (Air = 1): Est. heavier than air  
Solubility in Water: Unknown  
Appearance and Odor: Off white, free flowing powder with ester odor.

Specific Gravity: 1.150  
Percent Volatiles: Nil  
Evaporation Rate: Estimated lower than ether

**SECTION IV - FIRE & EXPLOSION DATA**

FLASH POINT (Method Used): >201°F (PMCC)  
FLAMMABLE LIMITS: N/DA  
AUTOIGNITION TEMPERATURE: N/DA  
EXTINGUISHING MEDIA: Dry chemical, CO<sub>2</sub>, foam, or water fog  
SPECIAL FIRE FIGHTING PROCEDURES: firefighters should wear full protective clothing including self contained breathing apparatus.  
UNUSUAL FIRE & EXPLOSION HAZARDS: N/DA

**SECTION V - HEALTH HAZARD DATA**

CHRONIC HEALTH EFFECTS: An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed for an average of 18 years. No adverse effects were noted in complete medical examination (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposure. Laboratory studies have also been conducted in small animals via inhalation to levels of precipitated silica dust of up to 126 mg/m<sup>3</sup> for periods from six months to two years. Although precipitated silica was temporarily deposited in the animal's lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, PPG indicate a very low order of pulmonary activity for synthetic precipitated silica.

MARKETED BY  
**HARWICK STANDARD**  
**DISTRIBUTION CORPORATION**

60 S. Seiberling Street • Akron, Ohio 44305

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**SECTION V - HEALTH HAZARD DATA (cont)**

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**PRIMARY ROUTE OF ENTRY-** Inhalation, skin

**CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN:** None

**NTP:** No                      **IARC:** No                      **OSHA:** No

**Note:** This product may contain 1,4-dioxane as a by-product, which can be absorbed by inhalation and through the skin. Please be advised that 1,4-dioxane is a cancer-suspect agent and can cause liver and kidney injury with over exposure.

<b>TOXICITY:</b>	<b>LD50</b>	<b>LC50</b>
Silicon Dioxide	acute oral >5g/kg	Acute Inhalation: Nuisance dust

**EFFECTS OF EXPOSURE-**

**EYES-** Contact can cause moderate to severe irritation and possible injury to eyes. Excessive contact with powder can cause drying of mucous membranes of eyes due to absorption of moisture and oils.

**SKIN-** Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis.

**INHALATION-** Nuisance dust. Excessive contact with powder can cause drying of mucous membranes of nose and throat due to absorption of moisture and oils. This material can also cause nasal irritation and nosebleeds.

**INGESTION-** Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-** Persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

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**SECTION VI - EMERGENCY & FIRST AID PROCEDURES**

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**EYE CONTACT:** Immediately rinse with clean water for 15 minutes. Retract eyelids often. Seek medical attention at once.

**SKIN CONTACT:** Immediately remove contaminated clothing. Wash skin thoroughly with mild soap and water. Flush with lukewarm water for 15 minutes. Seek medical attention if ill effect or irritation develops.

**INHALATION:** If overcome by exposure, remove victim to fresh air. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. If symptoms persist, get medical attention.

**INGESTION:** Immediately consult a physician.

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**SECTION VII - REACTIVITY DATA**

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**STABILITY:** Stable.

**MATERIALS TO AVOID-** Avoid alteration of product properties before reuse. Calcining, which may result in crystalline formation or mixing with additives may alter toxicological properties. Strong oxidizing agents and alkalies.

**CONDITIONS TO AVOID-** Avoid high temperatures (>800 C) treatment.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon and phosphorous when burned.

**HAZARDOUS POLYMERIZATION:** Will not occur.

## SECTION VIII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: MINIMIZE SPILL AREA. Vacuum spill material and place in closed plastic bags for disposal. Prevent runoff from entering drains, sewers, or streams. DO NOT touch or walk through spill material.

WASTE DISPOSAL METHOD: In accordance with local, state, and federal regulations

## SECTION IX - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Use a respirator such as 3M 9900 or equivalent for protection against pneumoconiosis producing dusts.

VENTILATION: Provide explosion proof ventilation as required to control airborne dust levels. The sum total of all ingredients may emit vapors during normal processing. All possible health effects are not known and individual sensitivities will vary. Effective exhaust ventilation should always be provided to draw dust, fumes and vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain ambient workplace atmosphere below the limits listed in Section V.

PROTECTIVE GLOVES: Impervious gloves to protect against contact with product

EYE PROTECTION: Safety goggles.

OTHER PROTECTIVE EQUIPMENT: Protective clothing, eye wash station, safety shower

## SECTION X - SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Handling can create explosive dust clouds. Eliminate ignition sources, use explosive proof equipment. Conveying and processing equipment should be spark-proof, well bonded and grounded. Avoid dust accumulations.

OTHER PRECAUTIONS: Wash with soap and water before eating, drinking, smoking, or using toilet facilities. Launder contaminated clothing before reuse.

## SECTION XI - REGULATORY INFORMATION

## TOXIC SUBSTANCE CONTROL ACT (TSCA)

The components of this product are contained on the Inventory of the Toxic Substance Control Act

## CHEMICAL INVENTORIES:

## OSHA:

The component(s) listed below is identified as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

INGREDIENT	AMOUNT	ACGIH (TLV)	OSHA (PEL)	UNITS
Silicon Dioxide	28%	10	6	mg/m <sup>3</sup>

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**SECTION XI - REGULATORY INFORMATION (Cont.)**

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**SARA 313 TOXIC CHEMICALS:**

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and the Pollution Prevention Act of 1990.

CAS REGISTRY #	CHEMICAL NAME	PERCENT BY WEIGHT
None.		

This information must be included in all MSDS's that are copied and distributed for this material.

**SECTION 311/312 - HAZARD CATEGORIES:**

The physical and health hazard categories for the hazardous components exceeding the de minimis amount subject to reporting under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372

Name of Chemical	Hazard	Percent in Product
Silicon Dioxide	Acute	28%

**ADDITIONAL RIGHT-TO-KNOW INFORMATION ON COMPONENTS:**

None Known.

**TRANSPORTATION INFORMATION:**

DOT Shipping Name: Corrosive Solid, acidic, organic, contains phosphoric acid

DOT Identification Number: UN 3261, III

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**SECTION XII - OTHER INFORMATION**

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Revision Note: Added CHEMTREC information.

Prepared by: James L. Pye, Jr.

Title: Safety Coordinator

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N/A = Not applicable    N/D = Not determined    N/DA = No Data Available    N/E = Not established

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