

# MATERIAL SAFETY DATA SHEET


## DEG DLC®-A

Date Revised: January 24, 2003

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### 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME: DEG DLC-A  
CHEMICAL NAME: Diethylene Glycol 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)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT NAME	CAS#	PERCENT
Diethylene Glycol	111-46-6	72
Silicon Dioxide	112926-00-8	28

Contains no detectable crystalline silica (detection limit <0.01% by weight).

### 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

CAUTION! May cause irritation.

EYE: Avoid contact with eyes, may cause irritation and pain. Symptoms include stinging, tearing, and redness.

SKIN: Avoid prolonged, repeated, or excessive contact with skin, may cause irritation and discomfort. Symptoms may include redness and burning of skin. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use. Skin absorption of this material (or a component) may be increased through injured skin.

SWALLOWING: Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Ingesting large amounts may be harmful.

INHALATION: Avoid prolonged or repeated inhalation of dust; may irritate the respiratory tract.

SYMPTOMS OF EXPOSURE: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), pain in the abdomen and lower back acute kidney failure (sudden slowing or stopping of urine production).

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### 3. HAZARDS IDENTIFICATION

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**TARGET ORGAN EFFECTS:** Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: kidney damage, liver damage, central nervous system damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: liver damage, kidney damage.

**DEVELOPMENTAL INFORMATION:** This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

**CANCER INFORMATION:** This material is not listed as a carcinogen by IARC, NTP, or OSHA.

**PRIMARY ROUTES OF ENTRY:** Inhalation, skin absorption, skin contact, eye contact, ingestion.

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### 4. FIRST AID MEASURES

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**INHALATION:** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek medical attention.

**EYE:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

**SKIN:** In case of contact, immediately flush eyes and skin with plenty of water (soap and water on skin) for at least 15 minutes. Remove contaminated clothing. Launder clothing before reuse. Get medical attention if irritation persists.

**SWALLOWING:** Seek medical attention. If individual is drowsy or unconsciousness, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

**NOTES TO PHYSICIAN:** Treat symptomatically. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol, diethylene glycol and methanol poisoning. Ingestion or other significant exposure to this material (or a component) may cause metabolic acidosis. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: liver, kidney, central nervous system.

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### 5. FIRE FIGHTING MEASURES

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**FLASH POINT:** 242°F (TCC).

**EXPLOSIVE LIMITS:** Lower 1.7 Upper 10.6

**AUTOIGNITION TEMPERATURE:** 444°F

**HAZARDOUS PRODUCTS OF COMBUSTION:** May form oxides of carbon.

**EXTINGUISHING MEDIA:** Alcohol foam, water fog, carbon dioxide, dry chemical.

**SPECIAL FIREFIGHTING PROCEDURES:** Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Water may be used to keep fire-exposed containers cool until the fire is out. Wear a self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

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**6. ACCIDENTAL RELEASE MEASURES**

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ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Vacuum spill material and place in closed plastic bags for disposal.

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**7. HANDLING AND STORAGE**

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**PRECAUTIONS TO BE TAKEN DURING HANDLING AND STORAGE:**

Store in a dry area. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks. Product surface alterations caused by calcining or mixing with additives may alter toxicological properties.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**Exposure Limits:**

8-hour Time Weighted Average (TWA); 15-minute Short-Term Exposure Limit (STEL)

OSHA: 6 mg/m<sup>3</sup> (total dust) TWA. 29 CFR 1910.1000

ACGIH: 10 mg/m<sup>3</sup> (total amorphous dust) TWA. 3 mg/m<sup>3</sup> (respirable nuisance particulate) TWA.

**RESPIRATORY PROTECTION:** Use NIOSH approved dust filter respirator for exposure above permissible exposure limits. The respiratory use limitations made by NIOSH or the manufacturer must be observed. Respiratory protection programs must be in accordance with 29 CFR 1910.134.

**VENTILATION:** General or local exhaust sufficient to maintain employee exposure below permissible exposure limits.

**EYE AND FACE PROTECTION:** If eye exposure to powder is likely, use tight fitting protective goggles.

**PROTECTIVE GLOVES:** Cloth. Leather. Rubber

**OTHER PROTECTIVE EQUIPMENT:** Boots, apron, or chemical suits should be used when necessary to prevent skin contact. Personal protective clothing and use of equipment must be in accordance with 29 CFR 1910.132 (general requirements), .133 (eye and face protection), and .138 (hand protection).

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**BOILING POINT:** N/A

**VAPOR PRESSURE (mm Hg):** 0.010 @ 68°F

**VAPOR DENSITY (Air = 1):** 3.660

**SOLUBILITY IN WATER:** Complete

**PHYSICAL STATE:** Free flowing powder

**SPECIFIC GRAVITY:** 1.315 (Calculated)

**PERCENT VOLATILES:** 0.0

**EVAPORATION RATE:** < 1.0

**COLOR:** Off-white

**ODOR:** Essentially no odor

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**10. STABILITY AND REACTIVITY**

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**STABILITY:** Stable

**HAZARDOUS POLYMERIZATION:** Will not occur.

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**10. STABILITY AND REACTIVITY**

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INCOMPATIBILITY (CONDITIONS TO AVOID): High temperatures (>800°C) treatment (calcining). Avoid alteration of product properties before use. Calcining, which may result in crystalline formation, or mixing with additives may alter toxicological properties.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong acids, strong bases, strong oxidizing agents.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS: None known.

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**11. TOXICOLOGICAL INFORMATION**

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ACUTE INHALATION LC50: Nuisance dust

ACUTE DERMAL LD50: N/A

SKIN IRRITATION: Mildly irritating.

EYE IRRITATION: Mildly irritating.

ACUTE ORAL LD50: Estimated >5 g/kg. Not significantly toxic.

MEDICAL CONDITIONS AGGRAVATED: None known.

**EFFECTS OF OVEREXPOSURE:**

ACUTE: Excessive contact with powder can cause drying of mucous membranes of nose, eyes, and throat due to absorption of moisture and oils. This material can also cause nasal irritation and nosebleeds. Eye contact with powder can result in mild irritation.

CHRONIC: An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time span of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree of duration of dust exposures. 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> per periods from six months to two years. Although precipitated silica was temporarily deposited in the animals' lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of the studies performed by, or known to, PPG indicate a very low order of pulmonary activity for synthetic precipitated silicas.

PPG recommends that person 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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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICOLOGICAL INFORMATION:**

EC<sub>0</sub>: > 1000 ppm (daphnia magna) (24-hour acute immobilization test)

EC<sub>0</sub>: > 10,000 ppm (rainbow trout) (4-day static study)

EC<sub>0</sub>: > 10,000 ppm (freshwater fish) (96-hour static acute toxicity study)

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**13. DISPOSAL CONSIDERATIONS**

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**DISPOSAL METHOD:**

Waste from this product may be disposed of in a sanitary landfill if state and local regulations permit. Care should be taken to avoid creation of dust during disposal operations.

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**14. TRANSPORT INFORMATION**

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**USA DOT DESCRIPTION:**

Proper Shipping Name: Not regulated by D.O.T.

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**15. REGULATORY INFORMATION**

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USA TSCA: Components are listed on the TSCA Inventory (Silicon dioxide as its general CAS# 7631-86-9)

EUROPE EINECS: Components are listed on EINECS (231-545-4). Silicon dioxide as its general CAS# 7631-86-9

CANADA DSL: Components are listed on the Canadian DSL.

AUSTRALIA AICS: Components are on AICS.

KOREA ECL: Components are listed on ECL.

JAPAN MITI (ENCS): Components are listed on MITI.

PHILIPPINES PICCS: Silicon dioxide is listed on the Philippines Inventory of Chemicals and Chemical Substances (PICCS).

**SARA TITLE III:**

SARA (311,312) HAZARD CLASS:

Diethylene Glycol – Delayed Health Hazard

Silicon Dioxide – Acute Health Hazard

SARA (313) Chemicals: Not listed.

SARA Section 302: Not listed as an Extremely Hazardous Substance.

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**16. OTHER INFORMATION**

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Revision Note: Updated Section II and Section XI

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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