

MATERIAL SAFETY DATA SHEET  
TEA DLC<sup>®</sup>-A

Date Revised: September 28, 2011

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SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: TEA DLC-A  
CHEMICAL NAME: Triethanolamine 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 2 - COMPONENTS

INGREDIENT	CAS REGISTRY
Silicon Dioxide	112926-00-8
Triethanolamine	000102-71-6

SECTION 3 - PHYSICAL DATA

Boiling Point: 335C (636F)	Specific Gravity: 1.277
Vapor Pressure (mm Hg): Low	Freezing Point: 70° F
Vapor Density (Air = 1): 5.14	Evaporation Rate: N/DA
Solubility in Water: Completely miscible	Flash Point: 179C (355F)
Explosion limits 1.3%V, 10%V	Odor: slight ammonia
Appearance: White, free flowing powder	

SECTION 4 - FIRE & EXPLOSION DATA

FLASH POINT (Method Used): 177C (350° F) (COC)

FLAMMABLE LIMITS: N/D

AUTOIGNITION TEMPERATURE: N/D

EXTINGUISHING MEDIA: Water fog, alcohol-resistant foam, CO2, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Wear positive-pressure self-contained breathing apparatus. Hazardous combustion products may form including ammonia, carbon dioxide, carbon monoxide, nitrogen oxides and sulfur oxides.

UNUSUAL FIRE & EXPLOSION HAZARDS: Not available.

SECTION 5 - PERMISSIBLE EXPOSURE LIMITS & TOXICITY

Silicon Dioxide: OSHA: 6 mg/m<sup>3</sup> (total dust), 8 hr. TWA; 29 CFR 1910.1000 (rev. 3/1/89). PPG Internal Permissible Exposure Limit (IPEL); Synthetic Precipitated Silicate: 5 mg/m<sup>3</sup> (respirable dust), 8 hr. TWA.

Triethanolamine: The LD50 for skin absorption in rabbits is >20,000 mg/kg. The oral LD50 for rats is approximately 8680 mg/kg. ACGIH timed weighted average 5 mg/m<sup>3</sup>.

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SECTION 6 - HEALTH HAZARD DATA

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Warning! Moderate skin irritant; Severe eye irritant; Skin sensitizer.

**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.

**SYSTEMIC & OTHER EFFECTS:** Repeated excessive exposures may cause liver and kidney injury.

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

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

NTP: No                      IARC: No                      OSHA: No

**EFFECTS OF EXPOSURE-**

**EYES-** Can cause moderate eye damage. Symptoms include stinging, tearing, redness and swelling of the eyes. Can injure eye tissue. Excessive contact with powder can cause drying of mucous membranes of eyes due to absorption of moisture and oils.

**SKIN-** Can cause skin irritation. Prolonged exposure may cause skin irritation. Repeated exposure may cause some irritation, even a burn. May rarely cause an allergic skin response. Symptoms may include redness and burning of skin, and other skin damage.

**SKIN ABSORPTION-** A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts.

**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. Higher temperatures may generate vapor levels sufficient to cause irritation.

**INGESTION-** Single dose oral toxicity is extremely low. No hazards are anticipated from swallowing small amounts incidental to normal handling operations. Industrial products are not meant to be swallowed. Exposure causes severe irritation of the gastrointestinal tract.

**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. Preexisting disorders may be aggravated by exposure to this material. This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies at exposure levels that harm the pregnant animal.

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SECTION 7 - EMERGENCY & FIRST AID PROCEDURES

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

**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. Seek medical attention.

INGESTION: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If possible, do not leave the individual unattended.

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#### SECTION 8 - REACTIVITY DATA

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STABILITY: Stable.

MATERIALS TO AVOID- Avoid alteration of product properties before reuse. Avoid calcining, which involves high temperatures (>800° C) and may result in crystalline formation. Do not mix with additives that may alter toxicological properties. Avoid strong oxidizers or strong acids. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases.

CONDITIONS TO AVOID- Avoid high temperature treatment (>800° C).

HAZARDOUS DECOMPOSITION PRODUCTS: May form ammonia, carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides. This product starts to decompose between 500F and 600F.

HAZARDOUS POLYMERIZATION: Will not occur.

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#### SECTION 9 - SPILL OR LEAK PROCEDURES

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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. Persons not wearing protective equipment should be excluded from the area of the spill.

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

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#### SECTION 10 - SPECIAL PROTECTION INFORMATION

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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. Provide sufficient mechanical ventilation to maintain exposure below TLV and below level of overexposure.

PROTECTIVE GLOVES: Impervious gloves to protect against contact with product. Wear gloves such as polyvinyl chloride or butyl-rubber.

EYE PROTECTION: Wear chemical splash goggles.

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

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**SECTION 11 - SPECIAL PRECAUTIONS**

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**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. Suspected cancer causing nitrosamine could be formed. Empty containers of the material retain residues and all hazard precautions should be observed. Combination of nitrites or oxides of nitrogen with secondary or tertiary amines can form nitrosamines which are potential carcinogens. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Warning: sudden release of hot organic vapors or mists from process equipment operating at elevated temperatures and pressures, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Aluminum equipment should not be used for storage or transfer because contact with aluminum parts in pressurizable systems may cause violent reactions. Keep material dry in tightly closed original container when not in use. Store in a cool, dry, well-ventilated area away from heat, open flames, organic chemicals and sunlight. Do not contaminate water, food, or feed by storage or disposal. Keep from freezing.

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

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**SECTION 12 - ENVIRONMENTAL INFORMATION**

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This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

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

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**THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:**

Reportable Quantity (RQ), EPA Regulation 40 CFR 302 (CERCLA Section 102):

No RQ for product or any constituent greater than 1% or 0.1% (carcinogen).

Threshold Planning Quantity (TPQ), EPA Regulation 40 CFR 355 (SARA Sections 301-313):

No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

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Hazardous Chemical Reporting, EPA Regulation 40 CFR 370 (SARA Sections 311-312):

Silicon Dioxide- Acute Hazard - 28%

Triethanolamine- Acute and chronic health hazard - 72%

The components of this product are included on the TSCA Chemical Substance Inventory.

**TRANSPORTATION:** Not regulated. Dangerous goods descriptions may not reflect package size, quantity, end-use or region-specific exceptions that can be applied to shipments. Consult shipping documents for material-specific descriptions.

California Prop. 65: This product does not contain any chemicals know to the State of California to cause cancer, birth defects or other harm.

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**SECTION 13 - OTHER INFORMATION**

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US Commerce Control List: ECCN 1C3 chemical agents (15CFR 775)  
US TSCA: Section 8(d) Health & Safety Data Reporting, (40CFR 716, Subpt B)  
US OSHA: On one of the floor lists of the OSHA HCS (29CFR 1910.1200)  
US High Production Volume Chemicals  
US TSCA Section 4 – Master Testing List.  
International Chemical Weapons Convention Schedules of Toxic Chemicals and Precursors.  
Global Automotive Declarable Substances List, Version 1.0  
SARA 313 Components  
OSHA Hazards: Moderate skin irritant, Severe eye irritant, skin sensitizer  
HMIS 2-1-1  
NFPA 2-1-1

Revision Note: updated CAS number for silica.

Prepared by: Craig Moore

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

N/E = Not established

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