

**NATROCHEM, INC.**Post Office Box 1205  
Savannah, Georgia 31498-4201  
(912) 236-4464**MATERIAL SAFETY  
DATA SHEET**TEPA DLC<sup>®</sup>-A

Date Revised: December 1, 1988

Page 1 of 4

**SECTION I - PRODUCT IDENTIFICATION**TRADE NAME: TEPA DLC<sup>®</sup>-A  
CHEMICAL NAME: Tetraethylenepentamine on silicon dioxide  
SYNONYMS: N/DA  
CHEMICAL FAMILY: N/DA**SECTION II - HAZARDOUS INGREDIENTS**

INGREDIENT	CAS REGISTRY	PERCENT	TLV	PEL's
Silicon Dioxide	63231-67-4	28	5 mg/m <sup>3</sup>	N/DA

TRANSPORTATION: Not regulated

**SECTION III - PHYSICAL DATA**BOILING POINT: >509°F  
VAPOR PRESSURE (mm Hg): <1  
VAPOR DENSITY (Air = 1): 6.53  
SOLUBILITY IN WATER: Soluble  
APPEARANCE AND ODOR: White, free-flowing powder with amine odor.  
SPECIFIC GRAVITY: 1.19  
PERCENT VOLATILES: N/DA  
EVAPORATION RATE: N/DA  
CAS #: N/DA**SECTION IV - FIRE & EXPLOSION DATA**FLASH POINT (Method Used): >350°F  
FLAMMABLE LIMITS: N/A  
AUTOIGNITION TEMPERATURE: N/DAEXTINGUISHING MEDIA: Water fog, alcohol foam, CO<sub>2</sub>, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Use a positive-pressure, self-contained breathing apparatus. Wear full protective clothing.

UNUSUAL FIRE &amp; EXPLOSION HAZARDS: Will burn under the right conditions of heat and oxygen supply.

**SECTION V - WARNING STATEMENTS**Silicon Dioxide: Nuisance dust: 5 mg/m<sup>3</sup> (respirable dust); 15 mg/m<sup>3</sup> (total dust), 8 hour TWA (time-weighted average); 29CFR 1910.1000MARKETED BY  
**HARWICK STANDARD  
DISTRIBUTION CORPORATION**

60 S. Seiberling Street • Akron, Ohio 44305

TEPA DLC<sup>®</sup>-A

Page 2 of 4

**SECTION VI - HEALTH HAZARD DATA**

EXPOSURE LIMITS: Not established for this product. TLV - 5 mg/m<sup>3</sup> for silicon dioxide.

CHRONIC & ACUTE HEALTH EFFECTS: Silicon Dioxide - 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 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 animals 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.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: None  
NTP: No IARC Monographs: No OSHA: No

EFFECTS OF OVEREXPOSURE: -

EYES- Silicon Dioxide: Mildly irritating. TEPA: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness.

SKIN- Silicon Dioxide: Mildly irritating. TEPA: Short single exposure may cause skin burns. May cause allergic skin reaction in susceptible individuals. DOT classification: Corrosive. A single prolonged exposure may result in the material being absorbed in harmful amounts. The LD50 for skin absorption in rabbits is about 660 mg/kg.

INHALATION- Silicon Dioxide: Nuisance dust. TEPA: Excessive exposure may cause irritation to upper respiratory tract. May cause respiratory sensitization in susceptible individuals.

INGESTION- Silicon Dioxide: Not significantly toxic. TEPA: Single dose oral toxicity is low. The oral LD50 for rats is 2140-3990 mg/kg. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE- Silicon Dioxide: 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.



TEPA DLC®-A

Page 3 of 4

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**SECTION VI - HEALTH HAZARD DATA (Cont.)**

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SYSTEMIC & OTHER EFFECTS- TEPA: Repeated skin application to rabbits did not cause internal injury. Did not cause cancer in long-term animal studies. Results of in vitro ("test tube") mutagenicity tests have been positive.

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

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EYE CONTACT: Immediate and continuous irrigation with flowing water for at least 30 minutes is imperative. Prompt medical consultation is essential.

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. Wash clothing before reuse. Destroy contaminated shoes and other leather items or articles which cannot be decontaminated.

INHALATION: If overcome by exposure, remove victim to fresh air. Call a physician immediately.

INGESTION: Do not induce vomiting. Give large amounts of water or milk if available and transport to medical facility.

NOTE TO PHYSICIAN- May cause tissue destruction leading to stricture. If lavage is performed, suggest endotracheal and/or esophagoscopy control. If burn is present, treat as any thermo burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. Excessive exposure may aggravate pre-existing asthma.

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**SECTION VIII - REACTIVITY DATA**

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STABILITY: Stable.

MATERIALS & CONDITIONS TO AVOID: Avoid alteration of product properties before reuse. Calcining, which may result in crystalline formation or mixing with additives may alter toxicological properties. Can autoignite in air at approximately 572°F. Avoid high temperatures (>800°C) treatment.

HAZARDOUS DECOMPOSITIONS PRODUCTS: Nitrogen oxides when burned.

HAZARDOUS POLYMERIZATION: Will not occur.

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**SECTION IX - SPILL OR LEAK PROCEDURES**

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: MINIMIZE SPILL AREA. Vacuum spilled material and place in closed plastic bags for disposal.

WASTE DISPOSAL METHOD: Incinerate in accordance with local, state and federal regulations. Keep out of public water supplies.

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TEPA DLC®-A

Page 4 of 4

**SECTION X - 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 the ambient workplace atmosphere below the limits listed in Section II.

**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 XI - SPECIAL PRECAUTIONS**

**HANDLING AND STORAGE:** This product should not come in contact with copper or copper-bearing alloys. Handling can create explosive dust clouds. Eliminate ignition sources, use explosion 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 re-use.

**REGULATORY REQUIREMENTS- SARA HAZARD CATEGORY:** TEPA; This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard.

A delayed health hazard.

N/A = Not Applicable N/D = Not Determined N/DA = No Data Available

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