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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Tetrakis(dimethylamino)silane**
FORMULA: $C_8H_{24}N_4Si$
CAS NO: 1624-01-7
SYNONYMS: TDMAS, Octamethylsilanetetramine

Intended Use: For R&D use only.

MANUFACTURER:

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IN CASE OF TRANSPORTATION EMERGENCY CONTACT CHEM-TREC 1-800-424-9300
CHEM-TREC INTERNATIONAL: +1-703-741-5500

FOR TECHNICAL INFORMATION CONTACT: +1-262-293-0251

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION:

Flammable liquids (category 3)
Substances, which in contact with water, emit flammable gases (category 2)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Acute toxicity, Oral (Category 4)
Skin corrosion (category 1B)
Serious eye damage (category 1)

TETRAKIS(DIMETHYLAMINO)SILANE

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

Pictogram



Signal Word

Danger

Hazard Statements

H226	Flammable liquid and vapor
H261	In contact with water releases flammable gas
H302 + H312	Harmful if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled

Precautionary Phrases

P231 + P232	Handle and store contents under inert gas. Protect from moisture.
P280	Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON center or doctor/physician
P422	Store contents under inert gas

POTENTIAL HEALTH EFFECTS

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of mucous membranes and upper respiratory tract.

Skin: Harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns.

Ingestion: Harmful if swallowed.

NFPA 704 RATINGS (SCALE 0-4):

Health: 3

Flammability: 2

Reactivity: 1

Special: W

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $C_8H_{24}N_4Si$

Molecular weight: 204.39 g/mol

Synonyms: TDMAS, Octamethylsilanetetramine

CHEMICAL NAME	CAS#	PURITY
Tetrakis(dimethylamino)silane	1624-01-7	98+%

SECTION 4 FIRST AID MEASURES

GENERAL ADVICE: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

EYE EXPOSURE: Immediately flush eyes with plenty of water for at least 15 minutes. A victim may need help keeping their eyelids open. Seek immediate medical attention. Continue rinsing during transport to hospital.

SKIN EXPOSURE: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Seek medical attention.

INHALATION: Move victim into fresh air. If not breathing, give artificial respiration. Seek medical attention.

INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek immediate medical attention.

SECTION 5 FIREFIGHTING MEASURES

CONDITIONS OF FLAMMABILITY:

Flammable in the presence of a source of ignition when the temperature is above the flash point. May burn in presence of air, or emit a flammable gas in the presence of water or water vapor. Keep away from heat/spark/open flame/hot surface/air/water. No smoking.

EXTINGUISHING MEDIA:

For fighting fires, use dry chemical.

UNSUITABLE EXTINGUISHING MEDIA:

Water

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:

Carbon oxides, nitrogen oxides (NO_x), and silicon oxides

SPECIFIC HAZARDS:

Severe fire hazard. Vapors can spread initially across the floor (heavier than air). The mixture of vapors and air may explode above the flash point. Vapors or gases may be ignited at a distance from original spill after spreading.

ADVICE FOR FIRE FIGHTERS

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not allow material to enter drains.

METHODS AND MATERIALS

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place container for disposal according to regulations (see section 13). Do not flush with water.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid inhalation of vapor or mist. Avoid contact with skin and eyes.
Keep away from sources of ignition – No smoking.
Take measures to prevent the buildup of electrostatic charge.

CONDITIONS FOR SAFE STORAGE

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage. Store under inert gas.
Recommended storage temperature: 2 – 8°C.

INCOMPATIBILITIES: Exposure to air, moisture.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

Contains no substances with occupational exposure limit values.

APPROPRIATE ENGINEERING CONTROLS

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday. Install local exhaust ventilation devices and management to ensure proper control.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Wear chemical safety goggles, faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN.

SKIN PROTECTION: Compatible chemical-resistant gloves. Inspect gloves before each use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The type of skin protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

BODY PROTECTION: Wear protective clothing to prevent skin exposure. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Ensure adequate washing facilities.

RESPIRATORY PROTECTION: Use a full-face air-purifying respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Colorless liquid

FORMULA MASS: 204.39 g/mol

ODOR: No data available

ODOR THRESHOLD: No data available

pH: No data available

MELTING POINT/ FREEZING POINT: 15 °C

BOILING POINT: 196 °C

FLASH POINT: 58 °C (closed cup)

EVAPORATION RATE: No data available

UPPER/LOWER FLAMMABILITY/EXPLOSION LIMITS: No data available

VAPOR PRESSURE: No data available

VAPOR DENSITY: No data available

SPECIFIC GRAVITY: 0.884 g/cm³ at 25°C

SOLUBILITY IN WATER: Reacts with water

PARTITION COEFFICIENT: N-OCTANOL/WATER: No data available

AUTO-IGNITION TEMPERATURE: No data available

DECOMPOSITION: No data available

VISCOSITY: No data available

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions

POSSIBILITY OF HAZARDOUS REACTION: Will not polymerize. Reacts violently with water.

CONDITIONS TO AVOID: Avoid heat, sparks, flame and other ignition sources. Exposure to moisture.

INCOMPATIBLE MATERIALS: Strong oxidizing agents, water.

HAZARDOUS DECOMPOSITION PRODUCTS: formed under fire conditions- Carbon oxides, nitrogen oxides, silicon oxide
Reacts with water to form: Material generates dimethylamine on contact with moisture, silicon oxides.

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY:

Oral LD50

LD50 Oral- rat- 1,476 mg/kg

Inhalation LC50

Dermal DL50

LD50 Dermal- rabbit- 1,087 mg/kg.

TETRAKIS(DIMETHYLAMINO)SILANE

SECTION 11 TOXICOLOGICAL DATA (cont.)

SKIN CORROSIVE/IRRITANT: No data available

SEROUS EYE DAMAGE/IRRITATION: No data available

RESPIRATORY OR SKIN SENSITIZATION: No data available

GERM CELL MUTAGENICITY: No data available

CARCINOGENICITY: No component of this product present at levels greater or equal to 0.1% is identified as probable, possible, or confirmed carcinogen by IARC, ACGIH, NTP, OSHA.

REPRODUCTIVE TOXICITY: No data available

STOT-Single Exposure: No data available

STOT-Repeated Exposure: No data available

ASPIRATION HAZARD: No data available

POTENTIAL HEALTH EFFECTS

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of mucous membranes and upper respiratory tract.

Skin: Harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns.

Ingestion: Harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE:

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx and bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea.

SECTION 12 ECOLOGICAL DATA

TOXICITY: No data available

PERSISTENCE AND DEGRADABILITY: No data available

BIOACCUMULATIVE POTENTIAL: No data available

MOBILITY IN SOIL: No data available

OTHER ADVERSE EFFECTS: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable federal, state, and local regulations.

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

SECTION 14 TRANSPORTATION DATA

DOT, IATA, IMDG Regulated:

Water-reactive liquid, corrosive, n.o.s. (Tetrakis(dimethylamino)silane)

UN3129

Class 4.3 (8)

PG: II

Marine pollutant: No

SECTION 15 REGULATORY INFORMATION

OSHA Hazards:

Combustible liquid, Water reactive, Harmful by ingestion, Harmful by skin absorption, Corrosive

SARA 302/313 Components:

No chemicals in this material are subject to reporting requirements of SAR Title III, Section 302 or 313.

SECTION 15 REGULATORY INFORMATION (cont.)

SARA 311/312 Hazards

Fire hazard, reactivity hazard, acute health hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

New Jersey/Pennsylvania Right to Know Components

Octamethylsilanetetramine CAS#: 1624-01-7

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Nova-Kem makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

DATE PREPARED: 05/2015 Rev. 0

SDS DEPT