

MATERIAL SAFETY DATA SHEET

MED10-6400 PART A

NuSil Technology urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to the use and understanding of the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers and other users of the product of this information.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

NuSil Technology 1050 Cindy Lane Carpinteria, California 93013 USA (805) 684-8780	EMERGENCY TELEPHONE NUMBERS: (800) 424-9300 CHEMTREC (805) 684-8780 OUTSIDE OF THE USA (703) 527-3887 CHEMTREC
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PRODUCT NAME: MED10-6400 PART A

CHEMICAL NAME: N/A

CHEMICAL FAMILY: Silicone

FORMULA: Proprietary

MOLECULAR WEIGHT: N/A

SYNONYMS: N/A

CAS #: Mixture

2. HAZARDOUS INGREDIENTS

%	<u>MATERIAL</u>	<u>CAS #</u>	<u>EXPOSURE VALUE</u>	<u>CLASSIFICATION</u>
65	Xylene	01330-20-7	See Section 7	See Section 8
10	Silica, amorphous	07631-86-9	See Section 7	See Section 8

3. HAZARDS IDENTIFICATION

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

Slightly toxic. May cause a burning sensation in the stomach, plus nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

SKIN ABSORPTION:

No evidence of adverse effects from available information.

INHALATION:

Causes upper respiratory tract irritation, experienced as discomfort in the nose and throat, and discharge from the nose; respiratory irritation, experienced as cough, chest discomfort, production of sputum, difficulty with breathing, pulmonary edema and hemorrhage; headache, nausea, dizziness, drowsiness, weakness, confusion, disturbed vision, ringing in ears, difficulty in walking and coma. Prolonged inhalation of high concentrations can cause liver and kidney degenerative lesions and depression of bone marrow activity.

SKIN CONTACT:

Prolonged contact can cause local redness with drying and cracking of the skin due to a defatting action.

EYE CONTACT:

Liquid causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva. Corneal injury may occur.

Vapor or mist may be irritating, experienced as discomfort, excess blinking and tear production, with excess redness of the conjunctiva.

EFFECTS OF REPEATED OVEREXPOSURE:

Long-term exposure to xylene can cause chronic headache, chest pain, nausea, mental confusion, breathing difficulties, heartbeat abnormalities, numbness in limbs, fever, reduced white blood cell count, malaise, and fatigue. Skin irritation can occur. Repeated exposure to high concentrations may cause injury to bone marrow, liver and kidneys.

No injury from silica or dust should occur during reasonable use. If use creates respirable particles, then some respiratory system injury may occur. However, since the silica in this product is compounded into the polymer matrix, it is not expected to present the same hazard as in the neat form.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Because of its irritating and defatting properties, this material may aggravate an existing dermatitis. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

Xylene has been shown to cause embryo fetal toxicity and birth defects in laboratory animals, but only at doses which also cause maternal toxicity. There is no information available with respect to its' possible developmental effects in humans.

Animals exposed repeatedly to high vapor concentrations (800 ppm or greater) of mixed xylenes suffered hearing loss.

OTHER EFFECTS OF OVEREXPOSURE:

None currently known.

4. FIRST AID MEASURES

EMERGENCY AND FIRST AID MEASURES:

SWALLOWING:

Do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.

SKIN:

Remove contaminated clothing and wash skin with soap and water. Wash clothing before reuse. Discard shoes. If irritation persists, seek the advice of a physician.

INHALATION:

Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention.

EYES:

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if symptoms persist.

NOTES TO PHYSICIAN:

If only a small amount of this product has been ingested and if there is likely to be a significant delay before emergency medical help is available, then in the absence of signs and symptoms of CNS depression or convulsions, and when the gag reflex is intact, ipecac may be used to produce vomiting. If vomiting is induced, the patient's head and upper body must be kept at a lower level than the hips to assist in the prevention of aspiration. Aspirated material may cause severe lung damage and present a significant hazard.

If a significant quantity of product is ingested, remove by means of gastric lavage using activated charcoal. A cuffed endotracheal tube should be used to prevent aspiration.

When evacuation of the stomach is complete, 30-60 ml of Fleet's Phospho-Soda diluted 1:4 in water may be given. Keep the patient under observation for 24 hours and check for signs of lung injury. It may require 2-4 weeks for resolution of lung infiltrates involving more than 30% of the lung volume.

5. FIRE FIGHTING MEASURES

FLASH POINT (test method(s)): 29°F (Tag Closed Cup)

FLAMMABLE LIMITS IN AIR (by volume):

LOWER: 1% UPPER: 7%

EXTINGUISHING MEDIA: Use alcohol-type or universal-type foams applied by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray a solid stream of water or foam directly into a pool of hot, burning liquid as this may cause frothing, and may intensify the fire. Use self-contained breathing apparatus when fighting fire in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point. Vapors from this product may settle in low or confined areas or travel a long distance to an ignition source and flash back explosively.

Flammable liquid. Vapor may be ignited by static sparks. Use proper bonding and grounding during liquid transfer as described in National Fire Protection Association document NFPA 77. See Section 10 for further information.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Extinguish and do not turn on any ignition source until the area is determined to be free from explosion or fire hazards

Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal.

WASTE DISPOSAL METHOD: Dispose of in accordance with all Federal, State, and local regulations.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Normal precautions common to safe manufacturing practice should be followed in handling and storage.

Keep container closed, in a cool dry place.
Keep away from heat and sources of ignition

S3/S7/S8
S14/S15

Do not breathe vapor S23
Avoid contact with skin and eyes S24/S25

Flammable R10
Harmful if inhaled or swallowed R20/R22

Wash thoroughly after handling
Use with adequate ventilation

WARNING: Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air. Ignition may occur at temperatures below those published in the literature as "autoignition" or "ignition" temperatures. Ignition temperatures decrease with increasing vapor volume and vapor / air contact time, and are influenced by pressure changes.

Ignition may occur at typical elevated-temperature process conditions, especially in processes operating under vacuum if subjected to sudden ingress or air, or outside process equipment operating under elevated pressure if sudden escape of vapors or mists to the atmosphere occurs.

Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE VALUES AND SOURCE:

Xylene : 100 ppm - 8 hours TWA (ACGIH, OSHA, NIOSH)
150 ppm - STEL/CEIL(C) (ACGIH, OSHA, NIOSH)

Silica, amorphous: 10 mg/m³ - 8 hours TWA (ACGIH)
6 mg/m³ - 8 hours TWA (OSHA, NIOSH)

RESPIRATORY PROTECTION:

Use approved respirator or self-contained breathing apparatus as needed to maintain personnel exposure below established Occupational Exposure Values.

VENTILATION:

General (mechanical) room ventilation is expected to be satisfactory for normal handling.

PROTECTIVE GLOVES: PVC-coated.

EYE PROTECTION: Use safety goggles.

OTHER PROTECTIVE EQUIPMENT: Eye bath and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES (based on typical material)

BOILING POINT: 281° F

SPECIFIC GRAVITY (H₂O = 1): 1

FREEZING POINT: N/A

VAPOR PRESSURE : 21 mm Hg @ 100°F.

VAPOR DENSITY (air = 1): 3.7

EVAPORATION RATE (Butyl Acetate = 1): 0.7

SOLUBILITY IN WATER (By wt): Negligible
APPEARANCE: Blue/Hazy
ODOR: Solvent.
PHYSICAL STATE: High viscosity liquid
PERCENT VOLATILES (by wt): See Section 15

Note: The above information is not intended for use in preparing product specifications.

10. STABILITY AND REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: Avoid open flames and ignition sources.

INCOMPATIBILITY: Avoid strong oxidizing sources.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce carbon monoxide, carbon dioxide, oxides of silicon, and hydrocarbons. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

COMPONENT:

MED10-6400 PART A:

Acute Oral LD ₅₀ (mg/kg):	500-5000 (Rat) Inferred from ingredient hazard(s)
Acute Dermal LD ₅₀ (mg/kg):	1000-2000 (Rbt.) Inferred from ingredient hazard(s)
Acute Inhalation LC ₅₀ (mg/l):	2-20 (Rat) Inferred from ingredient hazard(s)
Other:	N/A.
Ames Test:	N/A.

Refer to Section 3 for further discussion of the health hazards associated with this preparation.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Complete information not yet available.
CHEMICAL FATE INFORMATION: Complete information not yet available.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all Federal, State, and local regulations.

14. TRANSPORT INFORMATION

DOT HAZARD CLASSIFICATION:

Proper Shipping Name: Flammable liquid n.o.s (xylenes solution)
 Hazard Class: 3
 Hazard Label: Flammable Liquid
 UN Number: UN1993
 Packaging Group: III

I.A.T.A. HAZARD CLASSIFICATION:

Proper Shipping Name: Xylenes Solution
 Hazard Class: 3
 Hazard Label: Flammable Liquid
 UN Number: UN1307
 Packaging Group: III

15. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

C.H.I.P. REGULATIONS

Chemicals (Hazards Information and Packaging) Regulations 1993 requires physico-chemical and health hazard determination of all substances and preparations manufactured, transported, stored, modified, or consumed within the EEC. Components present in this product at a level which could require reporting under the statute are:

<u>MATERIAL</u>	<u>CAS NUMBER</u>	<u>UPPER BOUND CONCENTRATION</u>
Xylene	01330-20-7	65 %

FEDERAL EPA

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQ's) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

<u>MATERIAL</u>	<u>CAS NUMBER</u>	<u>UPPER BOUND CONCENTRATION</u>
Xylene	01330-20-7	65 %

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA 302, 304, 311, and 312). Components present in this product at a level which could require reporting under the statute are:

**** NONE ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS's that are copied and distributed for this material. Components present in this product at a level which could require reporting under this statute are:

<u>MATERIAL</u>	<u>CAS NUMBER</u>	<u>UPPER BOUND CONCENTRATION</u>
Xylene	01330-20-7	65 %

INVENTORY STATUS

The ingredients of this product are listed on, or are exempt from listing on, the TSCA inventory.

STATE-RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL)

Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are:

<u>MATERIAL</u>	<u>CAS NUMBER</u>	<u>UPPER BOUND CONCENTRATION</u>
Xylene	01330-20-7	65 %
Silica, amorphous	07631-86-9	10 %

PENNSYLVANIA Right-To-Know, Hazardous Substance List

Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products. Components present in this product at a level which could require reporting under the statute are:

<u>MATERIAL</u>	<u>CAS NUMBER</u>	<u>UPPER BOUND CONCENTRATION</u>
Xylene	01330-20-7	65 %
Silica, amorphous	07631-86-9	10 %

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

Volatile Organic Components (VOC's) = Substances with vapor pressure of ≥ 0.5 mm Hg at 104°C (219.2°F). This product contains 988 g/liter VOC's.

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Immediate Health Hazard
 Delayed Health Hazard
 Fire Hazard

C.H.I.P. Regulations:

Designation: **MED10-6400 PART A**
 Symbol: F, Xi, Xn

Indication of Danger: Flammable  Irritant  Harmful 

Safety Phrases: S3/S7/S8/S14/S15/S23/S24/S25
 (Ref. Sect. 7) R10/R20/R22

16. OTHER INFORMATION

HMIS FORMAT:

Health: 2

Flammability: 3

Reactivity: 0

We believe that the information contained herein is current as of the date of this Material Safety Data Sheet, and is offered in good faith. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of NuSil Technology, it is the user's obligation to determine the conditions of safe use of the product.

-NuSil Technology Regulatory Compliance Department

Effective Date: February 6, 2004