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UK & Ireland Distributor



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MATERIAL SAFETY DATA SHEET

MED1-6604

NuSil Technology LLC 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 LLC 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: MED1-6604
CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silicone Dispersion
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>
50	Tetrahydrofuran	00109-99-9	See Section 8	See Section 7
5	Methyltriacetoxysilane	04253-34-3	None Established	See Section 7
Trace	Acetic Acid (given off during cure)	00064-19-7	See Section 8	See Section 7

3. HAZARDS IDENTIFICATION

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

May cause gastrointestinal irritation resulting in nausea, vomiting, and diarrhea.

SKIN ABSORPTION:

Prolonged or widespread skin contact may result in absorption of potentially harmful amounts of material.

INHALATION:

May cause headache, nausea, vomiting, dizziness, drowsiness, irritation of upper respiratory tract, and unconsciousness. Harmful. Can cause injury to liver, kidneys and Central Nervous System. Prolonged overexposure to high concentration of vapor may result in the inhalation of harmful, and potentially lethal, amounts of material.

SKIN CONTACT:

Causes irritation with discomfort, seen as local redness and possible swelling. Prolonged contact may result in drying and cracking of the skin due to a defatting action.

EYE CONTACT:

Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctiva, and chemical irritation of the eye if not removed.

EFFECTS OF REPEATED OVEREXPOSURE:

Prolonged or repeated inhalation exposure may cause kidney, liver, and lung damage. Repeated skin contact may result in the development of a cumulative dermatitis.

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. Preexisting eye, skin, heart, central nervous system and respiratory disorders may be aggravated by exposure to this product.

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

Prolonged and repeated inhalation exposure to hydrocarbon vapor in the same boiling range has produced kidney damage in male rats. This effect has not been observed in female rats and male or female mice. The relevance of this information to humans is unknown.

OTHER EFFECTS OF OVEREXPOSURE:

None currently known.

4. FIRST AID MEASURES

EMERGENCY AND FIRST AID MEASURES:

SWALLOWING:

If patient is fully conscious, give two glasses of water. Do not induce vomiting. Obtain medical attention.

SKIN:

Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Obtain medical attention. Wash clothing before wearing again. Discard shoes.

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 without delay, preferably from an ophthalmologist.

NOTES TO PHYSICIAN:

Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (e.g., gastric lavage after endotracheal intubation).

5. FIRE FIGHTING MEASURES

FLASH POINT (test method(s)): 6°F

FLAMMABLE LIMITS IN AIR (by volume):
 LOWER: 2 % UPPER: 11.8 %

EXTINGUISHING MEDIA:
 Apply alcohol-type or universal-type foams by manufacturer's recommended technique for large fires. Use water spray, carbon dioxide, dry chemical media 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.

Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
 Flammable liquid. Vapors form flammable or explosive mixtures with air at room temperature. Vapor or gas may spread to distant ignition sources (pilot lights, welding equipment, electrical equipment, etc.) and flash back.

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.

This product contains polydimethylsiloxane which can generate formaldehyde as a byproduct of oxidative thermal decomposition at temperatures greater than 150°C (300°F). 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. See Section 5, "Unusual Fire and Explosion Hazards".

Use absorbent material to collect and contain for salvage or disposal. Remove all sources of ignition and wear proper protective equipment.

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:

Keep container closed, in a cool dry place.	S3/S7/S8
Do not inhale or allow contact with eyes, skin, or clothing	S23/24/35
Use with adequate ventilation.	S51
Highly Flammable	R11
Harmful if inhaled, absorbed through skin, or swallowed	R20/21/22

WARNING: Hot organic 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 of 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:

Tetrahydrofuran: 200 ppm - 8 hours TWA (ACGIH, OSHA, NIOSH)
250 ppm - STEL/CEIL(C) (ACGIH, NIOSH)

Acetic Acid: 10 ppm - 8 hours TWA (ACGIH)
15 ppm - STEL/CEIL(C) (ACGIH, OSHA)

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 with local ventilation as needed to maintain exposure below established Occupational Exposure Values.

PROTECTIVE GLOVES: Use chemical resistant gloves.

EYE PROTECTION: Use safety goggles.

OTHER PROTECTIVE EQUIPMENT: Eye bath and safety shower.

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

BOILING POINT: 65°F
SPECIFIC GRAVITY (H₂O=1): 0.97
FREEZING POINT: N/A
VAPOR PRESSURE : 114 mm @ 15°C
VAPOR DENSITY (air=1): 3.0
EVAPORATION RATE (Butyl Acetate=1): N/A
SOLUBILITY IN WATER (By wt): Insoluble
APPEARANCE: Clear
ODOR: Solvent
PHYSICAL STATE: Thick Fluid
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 contact with elevated temperatures, open flame and other ignition sources.

INCOMPATIBILITY: Oxidizing materials can cause a reaction.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce carbon monoxide, carbon dioxide, oxides of silicon, miscellaneous hydrocarbons, and explosive peroxides. 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.

Traces of formaldehyde may be generated due to oxidative thermal decomposition at temperatures greater than 150°C (300°F). Exposure to formaldehyde can cause adverse effects such as skin and respiratory sensitization and eye and throat irritation. Formaldehyde is a potential carcinogen. Evaluate and control exposure to formaldehyde when warranted by conditions of use.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

COMPONENT:

MED1-6604:

Acute Oral LD ₅₀ (mg/kg):	50-500 (Rat) Inferred from ingredient hazard(s)
Acute Dermal LD ₅₀ (mg/kg):	200-1000 (Rbt.) Inferred from ingredient hazard(s)
Acute Inhalation LC ₅₀ (mg/l):	0.5-2 (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. [Tetrahydrofuran solution]
 Hazard Class: 3
 Hazard Label: Flammable Liquid
 UN Number: UN1993
 Packing Group: II

I.A.T.A. HAZARD CLASSIFICATION:

Proper Shipping Name: Tetrahydrofuran solution
 Hazard Class: 3
 Hazard Label: Flammable Liquid
 UN/NA Number: UN2056
 Packing Group: II

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 2008 requires physico-chemical and health hazard determination of all substances and preparations manufactured, transported, stored, modified, or consumed within the U.K. 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>
Tetrahydrofuran	00109-99-9	50 %

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>
Tetrahydrofuran	00109-99-9	50 %

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>
Tetrahydrofuran	00109-99-9	50 %

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 does not contain any 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>
Tetrahydrofuran	00109-99-9	50 %

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>
Tetrahydrofuran	00109-99-9	50 %
Methyltriacetoxysilane	04253-34-3	5 %

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 < 500 g/liter VOC's

OTHER REGULATORY INFORMATION:

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

C.H.I.P. Regulations:

Designation: **MED1-6604**
 Symbol: **F**

Indication of Danger: Flammable 
 Safety Phrases: S3/S7/S8/23/24/35/51
 (Ref. Sect. 7) R11/20/21/22

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 LLC Regulatory Compliance Department

Effective Date: January 1, 2009