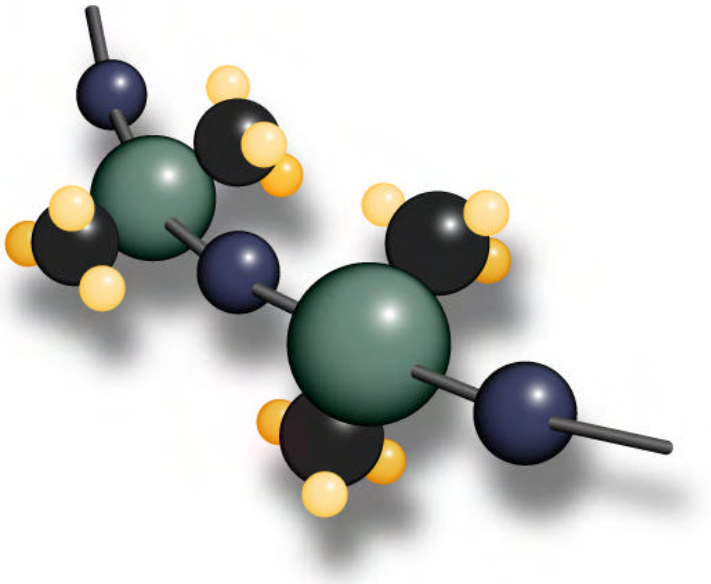
Polymer Systems Technology Limited

UK & Ireland Distributor

NuSil SILICONE TECHNOLOGY®
Creative Partners in a Material World

Unit 2. Network 4. Cressex Business Park,
Lincoln Road, High Wycombe, Bucks. HP12 3RF
Phone +44 (0) 1494 446610
Fax: +44 (0) 1494 528611
Web: http://www.siliconepolymers.co.uk
Email: sales@silicone-polymers.co.uk



Version uploaded 13/09/2012

MATERIAL SAFETY DATA SHEET
MED-6613-6 PART B

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**

PRODUCT NAME: **MED-6613-6 PART B**
CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silicone Dispersion
FORMULA: N/A
MOLECULAR WEIGHT: N/A
SYNONYMS: N/A
CAS# : Mixture

2. HAZARDOUS INGREDIENTS

%	MATERIAL	CAS #	EXPOSURE VALUE	CLASSIFICATION
30-40	Xylene*	01330-20-7	See Section 8	See Section 7
12-22	Resin Crosslinker	68988-57-8	Not Established	See Section 7
< 2	Titanium dioxide	13463-67-7	See Section 8	See Section 7
< 2	C.I. Pigment Black 28	68186-91-4	Not Established	See Section 7

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

3. HAZARDS IDENTIFICATION

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

Slightly toxic. May cause nausea, vomiting and diarrhea. Swallowing of large quantity may lead to central nervous system disturbances, such as convulsions, depression, or coma. 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:

Vapor may be irritating, experienced as nasal discomfort and discharge, with dizziness, headache, giddiness, and unconsciousness. Severe overexposure by inhalation may result in permanent lung damage.

SKIN CONTACT:
Brief contact is not irritating. Prolonged contact, as from clothing wet with the material, may cause moderate irritation seen as local redness.

EYE CONTACT:
Liquid causes irritation, experienced as stinging, excess blinking and tear production, with excess redness and swelling of the conjunctiva. High vapor concentrations cause tearing and irritation.

EFFECTS OF REPEATED OVEREXPOSURE:
Ethylbenzene – prolonged and repeated exposure may be harmful to the central nervous system (CNS), upper respiratory tract, and/or may cause liver disorders. It may also cause drying, scaling, and blistering of the skin. Ethylbenzene has been classified by IARC as Group 2B (possibly carcinogenic to humans) based on the NATIONAL Toxicology Program's two year study of very high exposure levels on rats and mice (NTP, 1999). Rats and micewere exposed to concentrations of 0, 250, or 750 ppm of Ethylbenzene for 6 hours per ay per week for 104 and 103 weeks, respectively. There were statistically significant increases in the incidence of kidney tumors in males and female rats, lung tumors in malesmice, and liver tumors in female mice exposed to 750 ppm of Ethylbenzene. The relevance of these data to human exposure is presently being evaluated.

The International Agency for Research on Cancer (IARC) has classified ethyl benzene as a possible human carcinogen.

No injury from pigment and titanium dioxide dust should occur during reasonable use. If use creates respirable particles, some respiratory system injury may occur. However, since the pigment and titanium dioxide in this product is compounded into the polymer matrix, they are not expected to present the same hazards as their neat form.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:
Because of its irritating and defatting properties, this material may aggravate an existing dermatitis.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:
This material (or a component) may be harmful to the human fetus based on positive test results with laboratory animals. This material (or component) has been shown to cause birth defects in laboratory animals studies. Toluene may be harmful to the human fetus based on positive test results with laboratory animals. Case studies show that prolonged intentional abuse of toluene during pregnancy can cause birth defects in humans.

OTHER EFFECTS OF OVEREXPOSURE:
None currently known.

4. FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:
Do not induce vomiting. Obtain medical attention without delay.

SKIN:
Remove contaminated clothing and wash skin with soap and water. Wash clothing before reuse.

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.

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 may 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 infiltrate involving more than 30% of lung volume.

5. FIRE FIGHTING MEASURES

FLASH POINT (test method(s)): 26.66°C (79.99°F) Estimated

FLAMMABLE LIMITS IN AIR (by volume):
LOWER: 1.3% UPPER: 8.4%

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.

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:
Cover spill with absorbent material. Transfer 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:
Containers of this material may be hazardous when emptied. Since emptied containers retain product resdues (vapor, liquid,and/or solid), all hazard precautions must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of

material. Use proper bonding and grounding product transfer as described in National Fire Protection Association document NFPA 77.

Keep out of the reach of children	S2
Keep away from sources of ignition-No smoking	S16
Avoid contact with skin and eyes	S/24/S25
Do not empty into drains	S29
Flammable	R10
Harmfulby inhalation and in contact with skin	R20/R22
Irritating to skin	R38

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 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:

Xylene:	100 ppm - 8 hrs. TWA (ACGIH, OSHA) 150 ppm - STEL (ACGIH, OSHA)
Ethylbenzene:	100 ppm (435mg/m^3) - 8 hrs. TWA (ACGIH, OSHA) 125 ppm - STEL (ACGIH, OSHA)
Benzene:	0.5 ppm (1.6 mg/m^3) - 8 hrs. TWA (ACGIH) 2.5 ppm (8 mg/m^3) - STEL (ACGIH) 1 ppm – 8 hrs. TWA (OSHA) 5 ppm STEL 500 ppm IDLH (NIOSH)
Toluene:	50 ppm - 8 hrs. TWA (ACGIH, OSHA) 150 ppm - STEL (ACGIH, OSHA)
Titanium dioxide:	10 mg/m^3 - 8 hours TWA (ACGIH) 10 mg/m^3 - 8 hours TWA (total dust)(OSHA)

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

VENTILATION:
General (mechanical) room ventilation with local ventilation as needed to maintain exposure below established Occupational Exposure Value.

PROTECTIVE GLOVES: Use solvent 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: N/A
SPECIFIC GRAVITY (H_2O=1): >1.0
FREEZING POINT: N/A
VAPOR PRESSURE @ 20°C: N/A
VAPOR DENSITY (air=1): N/A
EVAPORATION RATE : N/A
SOLUBILITY IN WATER (By wt): Insoluble
APPEARANCE: Green
ODOR: Solvent Odor
PHYSICAL STATE: 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 nitrogen dioxide and oxidizing materials.

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.

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:
Xylene (o,m,p, isomers):

Acute Oral LD_{50} (mg/kg):	4300 (Rat)
Acute Oral LD_{50} (mg/kg):	2119 (Mouse)
Acute Oral LD_{50} (mg/kg):	4300 (Mammal)
Acute Dermal LD_{50} (mg/kg):	>1700 (Rbt.)
Acute Inhalation LC_{50} (ppm/4H):	5000 (Rat)
Irritation eye rabbit:	87mg mild (Std. Draize)
Irritation skin rabbit:	500mg/24 moderate (Std. Draize)

Ethyl Benzene:

Acute Oral LD_{50} (mg/kg):	3500 (Rat)
Acute Dermal LD_{50} (uL/kg):	17800 (Rbt.)

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

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

Xylenes (CAS# 1330-20-7)

96 Hr LC 50 Oncorhynchus mykiss: 8.05 mg/L [flow-through]
96Hr LC50 Lepomis macrochirus: 16.1 mg/L [flow-through]
96 Hr LC 50 Pimephales promelas: 26.7 mg/L [static]
48 Hr LC50 Gammarus lacustris: 0.6 mg/L
24 Hr EC 50 Photobacterium phosphoreum: 0.0084 mg/L

Ethylbenzene (CAS# 100-41-4)

Freshwater
Fish (guppy) 96-h LC50: 9.9 mg/L (measured); fish (rainbow trout) 96-h LC50: 4.2 MG/l (measured); fish (fathead minnow) 96-h LC: 12.1 mg/L (measured); daphnid 48-h LC50: >1.81 MG/l (measured); green algal 96-h EC-50 (biomass as cell/ml) = 3.7(measured).

Saltwater
Fish 96-h LC50: 2.0 mg/L (predicted); fish (Atlantic silverside) 96-h LC50: 5.4 mg/L (measured); mysid 96-h LC50: 2.6 mg/L (measured); bay shrimp 96-h LC50: 0.490 mg/L (measured); Green algal 96-h EC-50 (growth rate): 7.7 mg/L (measured).

CHEMICAL FATE INFORMATION:
Some of the xylene will be scavenged by rain.
From the surface of water, half of the amount of Xylene will be volatized within 2 to 5.5 days.

When released into the air, Xylene may degrade by reaction with photochemically produced hydroxyl radicals. The photoreaction products are formic acid and acetic acid that after absorption in the hydrosphere are further degraded to CO_2 and H_2O.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

D.O.T. HAZARD CLASSIFICATION:

Proper Shipping Name:	Xylenes Solution
Hazard Class:	3
Labels Required:	Flammable Liquid
U.N. Number:	UN 1307
U.N. Packing Group:	III

I.A.T.A. HAZARD CLASSIFICATION:

Proper Shipping Name:	Xylenes Solution
Hazard Class:	3
Labels Required:	Flammable Liquid
U.N. Number:	UN 1307
U.N. Packing 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 2009 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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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 the 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.

Ethyl benzene, Toluene, and Benzene

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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %
Titanium dioxide	13463-67-7	< 2 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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:

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION
Xylene*	01330-20-7	30-40 %
Titanium dioxide	13463-67-7	< 2 %

*Constituents of Xylene: Ethylbenzene (CAS#100-41-1), Benzene(CAS#71-43-2), Toluene(CAS#108-88-3)

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 <700 g/liter VOC's.

OTHER REGULATORY INFORMATION:
EPA Hazard Categories: Immediate Health Hazard
Delayed Health Hazard
Fire Hazard

C.H.I.P. Regulations:

Designation:	**MED-6613-6 PART B**
Symbol:	F, Xn
Indication of Danger:	Flammable  Harmful 
Safety Phrases:	S2/S16/S24/S25/S29
(Ref. Sect. 7)	R10/R20/R22/R38

16. OTHER INFORMATION

HMIS FORMAT:
Health: 2*C 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 LLC, it is the user's obligation to determine the conditions of safe use of the product.
-NuSil Technology LLC Regulatory Compliance Department

Effective Date: July 9, 2012