

MATERIAL SAFETY DATA SHEET

SECTION 01 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

Chemical Name: **NUFLEX[®] 302 GENERAL PURPOSE SILICONE SEALANT**

Manufacturer: **NUCO INC.**
150 Curtis Drive
Guelph, Ontario N1K 1N5
Tel: (519)-823-4994
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Date: **May 1, 2011**

Prepared by: **Technical Services Department**

WHMIS Classification: **D2A, D2B**

Product Use: **Silicone Sealant and Adhesive**

SECTION 02 – COMPOSITION / INFORMATION ON INGREDIENTS:

<u>Ingredients</u>	<u>CAS No.</u>	<u>%</u>	<u>LD50 (Oral-Rat)</u>	<u>LC50 (Inhalation-Rat)</u>
Amorphous Silica	7631-86-9	7.0 – 13.0	3,160 mg/kg	> 0.139 mg/L (4 hr)
Methyl Triacetoxysilane	4253-34-3	1.0 – 5.0	1,600 mg/kg	Not available
Ethyl Triacetoxysilane	17689-77-9	1.0 – 5.0	1,460 mg/kg	Not available
Octamethylcyclotetrasiloxane	556-67-2	0.1 – 1.0	1,540 mg/kg	36 mg/L (4 hr)
Pigmented sealants may contain:				
Carbon Black	1333-86-4	0.1 – 1.0	14,400 mg/kg	Not available
Titanium Dioxide	13463-67-7	0.1 – 1.0	24,000 mg/kg	Not available
Pigment Blue 15	147-14-8	1.0 – 5.0	>10,000 mg/kg	Not available
Iron Oxide	1309-37-1	1.0 – 5.0	Not available	Not available

The ingredients listed above are controlled products as defined in CPR, am. SOR/88-555 or 29 CFR 1910.1200

SECTION 03 – HAZARDS IDENTIFICATION:

ROUTES OF ENTRY INTO THE BODY (ACUTE EFFECTS):

Eyes: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Irritates respiratory passages very slightly. If material is heated or vapor generated, care should be taken to prevent inhalation. If high vapor concentrations are attained then central nervous system depression may occur, characterized by drowsiness, dizziness, confusion or loss of coordination.

Ingestion: Low ingestion hazard in normal use.

WHMIS HAZARD SYMBOL(S):



SECTION 04 - FIRST AID MEASURES:

Eyes: Flush with copious quantities of lukewarm water. Do not attempt to physically remove the solids or gums from the eye. Seek medical attention immediately.

Skin: Remove contaminated clothing. Wash thoroughly with warm water and non-abrasive soap. Seek medical attention if you feel ill or a reaction develops.

Inhalation: Remove to fresh air and provide water. Seek medical attention if you feel ill or a reaction develops.

Ingestion: Get medical attention.

SECTION 05 - FIRE FIGHTING MEASURES:

Flammable Conditions: Avoid direct sources of heat or ignition in uncured state.
Extinguishing Media: Carbon dioxide, dry chemical, water fog or foam. Water can be used to cool fire exposed containers
Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan.
Flash Point: Not applicable
Flammability Limits: Lower Explosion Limit - not available
Upper Explosion Limit - not available
Autoignition Temperature: Not available
Hazardous Decomposition Products: Carbon oxides, silicone dioxide, metal oxides, formaldehyde, and traces of incompletely burned carbon products.
Sensitivity - Impact: None
Static: None

SECTION 06 – ACCIDENTAL RELEASE MEASURES:

Containment / Clean Up: Restrict access to the area of the spill. Provide ventilation, NIOSH/MHSA approved respirator and protective clothing. Scrape up sealant and place in container for disposal. Clean area as appropriate since silicone materials can represent a slip hazard. Cleaning may require steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state, provincial, federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup.

SECTION 07 – HANDLING AND STORAGE:

Handling and Storage: Store in an adequately ventilated area under dry conditions between 50°F (10°C) to 77°F (25°C) and keep container tightly sealed when not in use.

SECTION 08 – EXPOSURE CONTROL / PERSONAL PROTECTION:

Component Exposure Limits: Amorphous Silica (CAS# 7631-86-9): Although the silica is coated with the silicone sealant observe the particulate limits. OSHA PEL: TWA 80 mg/m³ / SiO₂. NIOSH REL: TWA 6 mg/m³.
Methyl Triacetoxysilane (CAS# 4253-34-3) forms acetic acid upon contact with atmospheric moisture. Provide adequate ventilation to control exposures within the following exposure guidelines: ACGIH TLV: TWA 10 ppm, STEL 15 ppm; OSHA PEL: TWA 10 ppm.
Ethyl Triacetoxysilane (CAS# 17689-77-9) forms acetic acid upon contact with atmospheric moisture. Provide adequate ventilation to control exposures within the following exposure guidelines: ACGIH TLV: TWA 10 ppm, STEL 15 ppm; OSHA PEL: TWA 10 ppm.
Octamethylcyclotetrasiloxane (CAS# 556-67-2): Provide adequate ventilation to control exposures within the following exposure guidelines: ACGIH TLV: TWA 10 ppm, STEL 15 ppm; OSHA PEL: TWA 10 ppm.
Pigmented Sealants: Carbon Black (CAS# 1333-86-4): Although the carbon black is coated with the silicone sealant observe the particulate limits. OSHA PEL and ACGIH TLV: TWA 3.5 mg/m³. Titanium Dioxide (CAS# 13463-67-7): Although the titanium dioxide is coated with the silicone sealant observe the particulate limits. OSHA PEL: TWA 15 mg/m³. ACGIH TLV: TWA 10 mg/m³. Iron Oxide (CAS# 1309-37-1): Although the iron oxide is coated with the silicone sealant observe the particulate limits. OSHA PEL: TWA 10 mg/m³; ACGIH TLV: TWA 5 mg/m³ respirable fraction. Pigment Blue 15 (CAS# 147-14-8): Although the pigment blue 15 is coated with the silicone sealant observe copper dust limits. OSHA PEL: TWA 1 mg/m³; ACGIH TLV: TWA 1 mg/m³.
Respiratory: Use respiratory protection unless local exhaust ventilation is provided or exposures are within guidelines.
Ventilation: In indoor applications, passive ventilation (opening of doors and windows) is recommended. Local exhaust as necessary to keep exposure levels within guidelines.

Personal Protective Equipment: Safety glasses with side-protection, impermeable gloves (e.g., neoprene, nitrile, silver shield (R)), coveralls or apron are important in preventing contamination of eyes, skin and clothing. Wash thoroughly after handling.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical State: Paste
Odor and Appearance: Acetic acid / thixotropic sealant
Odor Threshold: Not available
Specific Gravity: 1.01
Vapor Pressure: Not available
Vapor Density: Not available
Evaporation Rate: Not available
Boiling Point: Not available
Freezing Point: Not available
pH (ASTM D1293): 3.2
Acid Reserve, g NaOH/100 g (CCCR 2001, Sections 43 and 44): 0.17
Coeff. Oil/Water Distribution: Not available

SECTION 10 – STABILITY AND REACTIVITY:

Chemical Stability: Stable
Incompatible Materials: Strong oxidizing agents or electrophiles (e.g. ferric chloride). Concentrated acids or bases can degrade the silicone polymer.
Reactive Conditions: Moisture and incompatible materials.
Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION:

Effects of overexposure: Acetic acid vapors may irritate eyes, nose and throat. Direct contact with eyes and skin will irritate. **Pigmented Sealants:** Although the carbon black (CAS# 1333-86-4) is encapsulated by the silicone sealant, prolonged overexposure to carbon black dust causes lung fibrosis. Although the titanium dioxide (CAS# 13463-67-7) is encapsulated by the silicone sealant, prolonged overexposure to titanium dioxide dust causes tightness pain in the chest, coughing and difficulty breathing.

Sensitization: No known applicable information.

Carcinogenicity: No ingredients considered by IARC, NTP or OSHA to be carcinogens except in the pigmented sealants which may contain: Carbon Black (CAS# 1333-86-4): IARC Group 2B – possibly carcinogenic to humans. Titanium Dioxide (CAS# 13463-67-7): IARC Group 2B – possibly carcinogenic to humans.

Reproductive Toxicity: Evidence of reproductive effects in laboratory animals when exposed to Octamethylcyclotetrasiloxane (CAS# 556-67-2) by inhalation at concentrations of 500 ppm or higher for 70 days prior to mating.

Teratogenicity: No effects observed in laboratory animals when exposed to Octamethylcyclotetrasiloxane (CAS# 556-67-2) by inhalation at concentrations up to 700 ppm.

Mutagenicity: No known applicable information.

Synergistic Products: No known applicable information.

SECTION 12 – ECOLOGICAL INFORMATION:

Air: Complete information is not yet available.
Water: Complete information is not yet available.
Soil: Complete information is not yet available.

SECTION 13 – DISPOSAL CONSIDERATIONS:

Waste Disposal: Dispose in accordance with Federal, State / Provincial and local regulations.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Information: Not subject to DOT, TDG, IMDG Code or IATA Regulations.

SECTION 15 - REGULATORY INFORMATION:

TSCA Inventory Status:	Chemical components listed on TSCA inventory except as exempted.
NFPA Profile:	Health 2, Flammability 1, Reactivity 0
SARA TITLE III Chemical Listings:	Section 302 Extremely Hazardous Substances (40 CFR 355): None Section 304 CERCLA Hazardous Substances (40 CFR 302): None Section 311 / 312 Hazard Class (40 CFR 370): Acute: Yes; Chronic: No; Fire: No; Pressure: No; Reactive: No Section 313 Toxic Chemicals (40 CFR 372): None present or none present in regulated quantities.
State Substance List:	This product contains a listed substance(s) that appears on one or more of the Substance Lists for Pennsylvania, Massachusetts and New Jersey: amorphous silica (CAS# 7631-86-9); methyl triacetoxysilane (CAS# 4253-34-3); ethyl triacetoxysilane (CAS# 17689-77-9); dimethylsiloxane, hydroxy terminated (CAS# 70131-67-8); isoparaffinic hydrocarbon (CAS# 64742-46-7); and may contain carbon black (CAS# 1333-86-4); titanium dioxide (CAS# 13463-67-7); pigment blue 15 (CAS# 147-14-8), and iron oxide (CAS# 1309-37-1).
California Proposition 65 List:	No known applicable information.
Volatile Organic Content:	30 grams per liter, <3% by weight (Chemically Curing Sealants and Caulks – CARB Method 310: VOC less water, less exempt compounds and LVP-VOCs).
Domestic Substance List:	Chemical components listed on DSL except as exempted.

SECTION 16 - OTHER INFORMATION:

The information herein is given in good faith, but no warranty, express or implied, is made. Product users should make independent judgements of the suitability of this information to ensure proper use and to protect the health and safety of employees.

Form: MSDSNUFLEX302GENERALPURPOSESILICONESEALANT Rev.: 6 Date: 05/11