SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION:
Product name: NUFLEX® 309 METAL & VINYL SILICONE SEALANT
Recommended use: Silicone Sealant for Metal and Vinyl Products
Restrictions on use: No further information available
Manufacturer: NUCO INC.
150 Curtis Drive
Guelph, Ontario N1K 1N5
Tel: (519)-823-4994
Fax: (519)-823-1099

Emergency telephone: Infotrac 24 Hour Emergency Tel: (800)-535-5053

SECTION 2 – HAZARDS IDENTIFICATION:

GHS Classification:
- Eye irritation – Category 2B
- Skin irritation – Category 2
- Skin sensitization – Category 1B
- Carcinogenicity – Category 2

GHS Label elements:

Hazard symbols:

Signal word: Warning

Hazard statements:
- Causes skin irritation
- May cause an allergic skin reaction
- Causes eye irritation
- Suspected of causing cancer

Precautionary statements:
Prevention:
- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood.
- Avoid breathing dust, fume or vapors.
- Do not get in eyes, on skin or on clothing.
- Wash hands and other skin areas thoroughly after handling
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace
- Wear protective gloves/protective clothing/eye protection/face protection.

Response:
- If on skin, wash with plenty of soap and water. If skin irritation or rash occurs, get medical attention.
- If in eyes, rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- If exposed or concerned: Get medical advice/attention.
- If eye irritation persists: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.

Storage:
Store locked up. Store in a well-ventilated place.

Disposal:
Dispose of contents and container in accordance with applicable local, regional, national and international regulations.

Other hazards:
None known
**Supplemental information:** 75% of the mixture consists of component(s) of unknown acute toxicity.

**SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS:**

**Substance/Mixture:** Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Tri(methylenekeoxime)silane</td>
<td>22984-54-9</td>
<td>3.0 - 7.0</td>
</tr>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>3.0 – 7.0</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>1317-65-3</td>
<td>10.0 – 30.0</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>0.1 – 1.0</td>
</tr>
<tr>
<td><strong>Pigmented sealants may contain:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>0.1 – 1.0</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>0.1 – 1.0</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

**SECTION 4 - FIRST AID MEASURES:**

**Eye contact:** Flush with copious quantities of lukewarm water for at least 15 minutes. Do not attempt to physically remove the solids or gums from the eye. Seek medical attention immediately if irritation persists.

**Skin contact:** 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:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

**Most important symptoms/effects, acute and delayed:** None known.

**Indication of immediate medical attention and special treatment needed:** Provide general supportive measures and treat symptomatically.

**SECTION 5 - FIRE FIGHTING MEASURES:**

**Suitable extinguishing media:** Carbon dioxide, dry chemical, water fog or foam. Water can be used to cool fire exposed containers.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** Exposure to combustion products such as carbon oxides, silicone oxides and formaldehyde may be hazard to health.

**Special protective equipment and precautions for fire fighters:** 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.
SECTION 6 – ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures: Follow safe handling advice and personal protective equipment recommendations in Section 8.

Environment precautions: Discharged into the environment must be avoided. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning 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 7 – HANDLING AND STORAGE:

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage, including any incompatibilities: 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. Do not store with strong oxidizing agents.

SECTION 8 – EXPOSURE CONTROL / PERSONAL PROTECTION:

Control Parameters:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Value Type (form of exposure)</th>
<th>Control parameters/Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>TWA (Dust)</td>
<td>20 Million particles per cubic foot (Silica)</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Dust)</td>
<td>80 mg/m³ %SiO2 (Silica)</td>
<td>OSHA Z-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>6 mg/m³ (Silica)</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>1317-65-3</td>
<td>TWA (Inhalable particulate)</td>
<td>10 mg/m³</td>
<td>ACGIH TLV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (respirable particulate)</td>
<td>5 mg/m³</td>
<td>ACGIH TLV</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>TWA</td>
<td>10 ppm</td>
<td>OSHA PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>15 ppm</td>
<td>ACGIH TLV</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>1333-86-4</td>
<td>TWA</td>
<td>3.5 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>3.5 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction)</td>
<td>3 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>TWA</td>
<td>15 mg/m³</td>
<td>OSHA PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>ACGIH TLV</td>
</tr>
</tbody>
</table>
Hazardous components without workplace control parameters:
Methyl Tri(methylethylketoxime)silane (CAS# 22984-54-9)

Occupational exposure limits of decomposition products:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No.</th>
<th>Value Type (form of exposure)</th>
<th>Control parameters/Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketoxime</td>
<td>96-29-7</td>
<td>TWA</td>
<td>10 ppm</td>
<td>DCC OEL</td>
</tr>
</tbody>
</table>

Further information: Skin sensitization

TWA 10 ppm US WEEL

Engineering controls: Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations. Use respiratory protection unless local exhaust ventilation is provided or exposures are 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 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Paste, thixotropic sealant
Odor: Low odor
Odor threshold: Not available
pH (ASTM D1293): Not available
Melting point/Freezing point: Not available
Initial boiling point and boiling range: Not available
Flash point: Not applicable
Evaporation rate: Not available
Flammability (solid, gas): Not classified as a flammability hazard
Upper flammability or explosion limit: Not available
Lower flammability or explosion limit: Not available
Vapor pressure: Less than 5 mm Hg
Vapor density: Greater than 1
Specific gravity: 1.12
Solubility: Not available
Partition coefficient: n-octanol/water: Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Viscosity: Not applicable
Volatile Organic Content: 28 grams per liter, <3% by weight (Chemically Curing Sealants and Caulks – CARB Method 310: VOC less water, less exempt compounds and LVP-VOCs).

SECTION 10 – STABILITY AND REACTIVITY:

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents.
Conditions to avoid: Moisture and incompatible materials.
Incompatible materials: Strong oxidizing agents or electrophiles (e.g. ferric chloride). Concentrated acids or bases can degrade the silicone polymer.
Hazardous decomposition products: Carbon oxides, silicone dioxide, metal oxides, formaldehyde and traces of incompletely burned carbon products.
SECTION 11 - TOXICOLOGICAL INFORMATION:

Information on the likely routes of exposure:

Inhalation: Prolonged inhalation may be harmful.
Ingestion: May be harmful if swallowed.
Skin contact: May cause skin irritation.
Eye contact: May cause eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics: May cause an allergic skin reaction. Suspected of causing cancer. 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.

Acute toxicity:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amorphous Silica</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;3,300 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;2.08 mg/L</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;5,000 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td>Methyltri(methylethylketoxime)</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2,520 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td>silane</td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;4.8 mg/L</td>
<td>4 hours</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>6,450 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1,540 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>36 mg/L</td>
<td>4 hours</td>
</tr>
<tr>
<td>Carbon Black</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5,000 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;0.0046 mg/L</td>
<td>4 hours</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;5,000 mg/kg</td>
<td>----</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;6.82 mg/L</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Skin irritation possible through repeated direct contact with the ketoxime in the uncured sealant.

Serious eye damage/irritation: Eye irritation possible through repeated direct contact with the ketoxime in the uncured sealant.

Aspiration hazard: No data available

Specific target organ toxicity – single exposure: Not classified based on available information.

Specific target organ toxicity – repeated exposure: Not classified based on available information.

Respiratory or skin sensitization: Allergic skin sensitization through repeated direct contact with the ketoxime in the uncured sealant.

Carcinogenicity: No ingredients considered by IARC, NTP or OSHA to be carcinogens. Male rodents exposed to Methyl Ethyl Ketoxime (CAS# 96-29-7) vapor throughout their lifetime developed liver carcinomas. These carcinomas were statistically increased at a concentration of 374 ppm.

Pigmented Sealants: carbon black (CAS# 1333-86-4) and titanium dioxide (CAS# 13463-67-7) are classified as 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. Methyl Ethyl Ketoxime (CAS# 96-29-7) is not considered a reproductive or developmental toxin based on
studies on rats.

**Teratogenicity:** No data available.

**Germ-cell mutagenicity:** Methyl Ethyl Ketoxime (CAS# 96-29-7) is not considered mutagenic or genotoxic based on in vivo and in vitro studies.

### SECTION 12 – ECOLOGICAL INFORMATION:

#### Ecotoxicity:

**Methyltri(methylethylketoxime)silane:**
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): >120 mg/L, 96 hrs.
- EC50 (Daphnia magna (water flea)): >120 mg/L, 48 hrs.
- Toxicity to daphnia and other aquatic invertebrates: ErC50 (Selenastrum capricornutum (green algae)): 94mg/L, 72 hrs.

**Carbon black:**
- Toxicity to fish: LC50 (Danio rerio (zebra fish)): >1,000 mg/L, 96 hrs.
- EC50 (Daphnia magna (water flea)): >5,600 mg/L, 24 hrs.
- Toxicity to daphnia and other aquatic invertebrates: NOEC (Desmodesmus subspicatus (green algae)): 10,000 mg/L, 72 hrs.

**Titanium Dioxide:**
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): >100 mg/L, 96 hrs.
- EC50 (Daphnia magna (water flea)): >100 mg/L, 48 hrs.
- Toxicity to daphnia and other aquatic invertebrates: EC50 (Skeletonema costatum (marine diatom)): >10,000 mg/L, 72 hrs.
- Toxicity to algae: EC50: >1,000 mg/L, 3 hrs.

**Persistence and degradability:**

**Methyltri(methylethylketoxime)silane:**
- Biodegradability: Not readily biodegradable
- Biodegradation: 14.5%, 21 days

**Bioaccumulative potential:**

**Methyltri(methylethylketoxime)silane:**
- Partition coefficient: n-octanol/water: log Pow: 11.2

**Mobility in soil:** No data available.

**Other adverse effects:** No data available.

### SECTION 13 – DISPOSAL CONSIDERATIONS:

**Disposal instructions:**
This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local, regional, national and international regulations.

**Waste from residues:** Dispose of in accordance with local regulations.

**Contaminated packaging:** Dispose of as unused product in a safe way. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### SECTION 14 - TRANSPORT INFORMATION:

**Shipping information:** Not subject to DOT, TDG, IMDG Code or IATA Regulations.
SECTION 15 - REGULATORY INFORMATION:

SARA 304 Extremely Hazardous Substances Reportable Quantity:
This product does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards: Acute Health Hazard, Chronic Health Hazard
SARA 302: No chemicals in this product are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313: This product does not contain any chemical components with known CAS No. that exceed the threshold reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl siloxane, hydroxy-terminated</td>
<td>70131-67-8</td>
<td>50 – 80%</td>
</tr>
<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>3 – 7%</td>
</tr>
<tr>
<td>Methyl Tri(methylethylketoxime)silane</td>
<td>22984-54-9</td>
<td>3 – 7%</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>0.1 – 1%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>0.1 – 1%</td>
</tr>
</tbody>
</table>

New Jersey Right To Know:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl siloxane, hydroxy-terminated</td>
<td>70131-67-8</td>
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<tr>
<td>Amorphous Silica</td>
<td>7631-86-9</td>
<td>3 – 7%</td>
</tr>
<tr>
<td>Methyl Tri(methylethylketoxime)silane</td>
<td>22984-54-9</td>
<td>3 – 7%</td>
</tr>
<tr>
<td>Dimethyl Siloxane, Trimethylsiloxy-terminated</td>
<td>63148-62-9</td>
<td>15 – 30%</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>0.1 – 1%</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>0.1 – 1%</td>
</tr>
</tbody>
</table>

California Proposition 65: This product contains trace amount of substances, in the form of airborne or unbound particles, known to the State of California to cause cancer or other reproductive harm.

The ingredients of this product are reported in the following inventories:

TSCA: All chemical substances in this product are included on or exempted from listing on the TSCA inventory of Chemical Substances.

DSL: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempted from listing on the Canadian Domestic Substances List (DSL).

NFPA Profile: Health 2, Flammability 1, Reactivity 0

SECTION 16 - OTHER INFORMATION:

Prepared by: Technical Services Department
Revision date: February 3, 2016

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.