# LS1-3200

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/28/2015 Date of issue: 04/25/2014 Version: 3.2

## SECTION 1: Identification

### 1.1. Product identifier

Product form : Mixture

Product name : LS1-3200

Synonyms : Silicone Primer

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : To improve adhesion of cured systems to various substrates. For professional use only.

### 1.3. Details of the supplier of the safety data sheet

NuSil Technology LLC
1050 Cindy Lane
Carpinteria, California 93013
USA
(805) 684-8780
ehs@nusil.com
www.nusil.com

### 1.4. Emergency telephone number

Emergency number : 800-424-9300 CHEMTREC (in US); +1 703-527-3887 CHEMTREC (International and Maritime)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

| | |
|---|---|
| Flam. Liq. 2 | H225 |
| Skin Irrit. 2 | H315 |
| Eye Dam. 1 | H318 |
| STOT SE 3 | H336 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 2 | H401 |
| Aquatic Chronic 2 | H411 |

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

Hazard pictograms (GHS-US) :

GHS02 GHS05 GHS07 GHS08 GHS09

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H318 - Causes serious eye damage
H336 - May cause drowsiness or dizziness
H401 - Toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors, mist, spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media to extinguish.
P391 - Collect spillage.
P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

### 2.3. Other hazards

Other hazards not contributing to the classification : This material or its emissions may defat skin, cause contact dermatitis, or aggravate existing skin disease. Flammable vapors can accumulate in head space of closed systems.

### 2.4. Unknown acute toxicity (GHS US)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---|---|---|---|
| Solvent naphtha, petroleum, light aliphatic | (CAS No) 64742-89-8 | 75 - 85 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Acute 2, H401<br>Aquatic Chronic 2, H411 |
| Silicic acid (H4SiO4), tetrakis(2-methoxyethyl) ester | (CAS No) 2157-45-1 | < 10 | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319 |

| | | | |
|---|---|---|---|
| 1-Butanol, titanium(4+) salt | (CAS No) 5593-70-4 | < 10 | Flam. Liq. 3, H226<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>STOT SE 3, H336<br>STOT SE 3, H335 |

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact : Remove contaminated clothing. Drench affected area with water for at least 15 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes skin irritation. Causes serious eye damage. May cause drowsiness and dizziness. May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.

Symptoms/injuries after skin contact : Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/injuries after eye contact : Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/injuries after ingestion : The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Chronic symptoms : The chronic effects of this substance are unknown.

### 4.3. Indication of any immediate medical attention and special treatment needed

If exposed or concerned, get medical advice and attention.

## SECTION 5: Fire-Fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, fog, carbon dioxide, alcohol-resistant foam, dry chemical.

Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire. Application of water stream to hot product may cause frothing and increase fire intensity.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor. Will float and can be reignited on water surface.

| | |
|---|---|
| Explosion hazard | : May form flammable/explosive vapor-air mixture. |
| Reactivity | : Highly flammable liquid and vapor. |

### 5.3. Advice for firefighters

| | |
|---|---|
| Precautionary measures fire | : Exercise caution when fighting any chemical fire. |
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |
| Other information | : Do not allow the product to be released into the environment. |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

| | |
|---|---|
| General measures | : Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Avoid all eyes and skin contact and do not breathe vapor and mist. |

#### 6.1.1. For non-emergency personnel

| | |
|---|---|
| Protective equipment | : Use appropriate personal protection equipment (PPE). |
| Emergency procedures | : Evacuate unnecessary personnel. |

#### 6.1.2. For emergency responders

| | |
|---|---|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit |

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

| | |
|---|---|
| For containment | : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. |
| Methods for cleaning up | : Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools. Contact competent authorities after a spill. |

### 6.4. Reference to other sections

See heading 8, Exposure Controls and Personal Protection. For further information, refer to Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | |
|---|---|
| Additional hazards when processed | : Handle empty containers with care because residual vapors are flammable. Hot organic chemical vapors or mists are susceptible to spontaneous combustion when mixed with air, ignition may occur below auto ignition temperature. Ignition temperatures will decrease with increasing vapor volumes, vapor air contact time, and pressure changes. Ignition may occur at elevated-temperature process conditions, especially under a vaccuum. Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Flammable vapors can accumulate in head space of closed systems. |

| | |
|---|---|
| Precautions for safe handling | : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only non-sparking tools. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid all eye and skin contact and do not breathe vapor and mist. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands, forearms, and other exposed areas thoroughly after handling. |

### 7.2. Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| Technical measures | : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. |
| Storage conditions | : Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep container tightly closed. Store locked up. Store away from incompatible materials. Store away from direct sunlight or other heat sources. Store away from oxidizers, combustible materials, and all ignition sources. |
| Incompatible products | : Strong acids. Strong bases. Strong oxidizers. Heat sources. Ignition sources. |
| Storage area | : Store locked up. Store in a well-ventilated place. Keep cool. |

### 7.3. Specific end use(s)

To improve adhesion of cured systems to various substrates. For professional use only.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), or OSHA (PEL).

### 8.2. Exposure controls

| | |
|---|---|
| Appropriate engineering controls | : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas. |
| Personal protective equipment | : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection. |

| | |
|---|---|
| Materials for protective clothing | : Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing. |
| Hand protection | : Wear chemically resistant protective gloves. |
| Eye protection | : Chemical goggles or face shield. |
| Skin and body protection | : Wear suitable protective clothing. Wash contaminated clothing before reuse. |

| | |
|---|---|
| Respiratory protection | : In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection. |
| Consumer exposure controls | : Do not eat, drink or smoke during use. |
| Other information | : When using, do not eat, drink or smoke. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | : Liquid |
| Appearance | : Colorless |
| Odor | : Solvent |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : 99 °C (210°F) |
| Flash point | : 17 °C (63°F) |
| Auto-ignition Temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : 0.76 |
| Solubility | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Viscosity | No data available |

### 9.2. Other information

VOC content : 95 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapor.

### 10.2. Chemical stability

May form flammable/explosive vapor-air mixture.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Ignition sources. Incompatible materials.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, $CO_2$). Hydrocarbons. Silicon oxides. Metal oxides. May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

| **1-Butanol, titanium(4+) salt (5593-70-4)** | |
|---|---|
| LD50 oral rat | > 2000 mg/kg |

| **Solvent naphtha, petroleum, light aliphatic (64742-89-8)** | |
|---|---|
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | 3000 mg/kg |

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation : High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms.
Symptoms/injuries after skin contact : Redness, pain, swelling, itching, burning, dryness, and dermatitis.
Symptoms/injuries after eye contact : Causes permanent damage to the cornea, iris, or conjunctiva.
Symptoms/injuries after ingestion : The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.
Chronic symptoms : The chronic effects of this substance are unknown.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects.

| **1-Butanol, titanium(4+) salt (5593-70-4)** | |
|---|---|
| EC50 Daphnia 1 | 680 mg/l |

### 12.2. Persistence and degradability

| **LS1-3200** | |
|---|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |

### 12.3. Bioaccumulative potential

| **LS1-3200** | |
|---|---|
| Bioaccumulative potential | Not established. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Waste disposal recommendations : Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

## SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

**14.1. UN number**

UN-No.(DOT) : 1268
DOT NA no. UN1268

**14.2. UN proper shipping name**

Proper Shipping Name (DOT) : Petroleum distillates, n.o.s. (Contains naphtha)
Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid


Packing group (DOT) : II - Medium Danger
DOT Special Provisions (49 CFR 172.102) : 144 - If transported as a residue in an underground storage tank (UST), as defined in 40 CFR 280.12, that has been cleaned and purged or rendered inert according to the American Petroleum Institute (API) Standard 1604 (IBR, see 171.7 of this subchapter), then the tank and this material are not subject to any other requirements of this subchapter. However, sediments remaining in the tank that meet the definition for a hazardous material are subject to the applicable regulations of this subchapter.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
Marine pollutant : Marine pollutant

### 14.3. Additional information

| | |
|---|---|
| Emergency Response Guide (ERG) Number | : 128 |
| Other information | : No supplementary information available. |

**Transport by sea**

| | |
|---|---|
| DOT Vessel Stowage Location | : B - (i) The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) ''On deck only'' on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded. |
| EmS-No. (1) | : F-E |
| MFAG-No | : 128 |
| EmS-No. (2) | : S-E |

**Air transport**

| | |
|---|---|
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : 5 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : 60 L |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| **LS1-3200** | |
|---|---|
| SARA Section 311/312 Hazard Classes | Fire hazard<br>Immediate (acute) health hazard<br>Delayed (chronic) health hazard |

| **Silicic acid (H4SiO4), tetrakis(2-methoxyethyl) ester (2157-45-1)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **1-Butanol, titanium(4+) salt (5593-70-4)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **Solvent naphtha, petroleum, light aliphatic (64742-89-8)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

### 15.2. US State regulations

| **1-Butanol, titanium(4+) salt (5593-70-4)** |
|---|
| U.S. - Texas - Effects Screening Levels - Long Term<br>U.S. - Texas - Effects Screening Levels - Short Term |

| **Solvent naphtha, petroleum, light aliphatic (64742-89-8)** |
|---|
| U.S. - Texas - Effects Screening Levels - Long Term<br>U.S. - Texas - Effects Screening Levels - Short Term |

## SECTION 16: Other information, including date of preparation or last revision

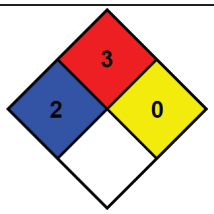
| | |
|---|---|
| Revision date | : 10/28/2015 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

Full text of H-phrases:

| | |
|---|---|
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |

| | |
|---|---|
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Flam. Liq. 3 | Flammable liquids Category 3 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H225 | Highly flammable liquid and vapor |
| H226 | Flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H401 | Toxic to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

| | |
|---|---|
| NFPA health hazard | 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given. |
| NFPA fire hazard | 3 - Liquids and solids that can be ignited under almost all ambient conditions. |
| NFPA reactivity | 0 - Normally stable, even under fire exposure conditions, and are not reactive with water. |




*We believe that the information contained herein is current as of the date of this 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 US GHS SDS