* * *Section 1 - IDENTIFICATION* * *

Product Identifier: Kleer Structural Sealant

Recommended Use
adhesives / sealant

Restrictions on Use
None known.

Manufacturer Information
Manus Products, Inc. Phone: (952) 442-3323
866 Industrial Blvd. West Emergency # (800) 424-9300
Waconia, MN  55387

* * *Section 2 - HAZARD(S) IDENTIFICATION* * *

Classification in accordance with 29 CFR 1910.1200.
Toxic to reproduction, Category 2
Hazardous to the Aquatic Environment - Acute Hazard, Category 3
Hazardous to the Aquatic Environment - Chronic Hazard, Category 3

GHS LABEL ELEMENTS
Symbol(s)

Signal Word
WARNING

Hazard Statement(s)
 Suspected of damaging fertility or the unborn child
 Harmful to aquatic life with long lasting effects

Precautionary Statement(s)
Prevention
 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
 Wear protective gloves/clothing and eye/face protection. Avoid release to the environment.

Response
 IF exposed or concerned: Get medical advice/attention.

Storage
 Store locked up.

Disposal
 Dispose of contents/container in accordance with local/regional/national/international regulations.

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>471-34-1</td>
<td>Carbonic acid, calcium salt (1:1)</td>
<td>15-25</td>
</tr>
<tr>
<td>53306-54-0</td>
<td>1,2-Benzenedicarboxylic acid, bis(2-propylheptyl)ester</td>
<td>5-15</td>
</tr>
<tr>
<td>1760-24-3</td>
<td>N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine</td>
<td>0.5-2</td>
</tr>
</tbody>
</table>
**Section 4 - FIRST-AID MEASURES**

**Description of Necessary Measures**

**Inhalation**
IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

**Skin Contact**
IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye Contact**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Ingestion**
If a large amount is swallowed, get immediate medical attention.

**Most Important Symptoms/Effects**

**Acute**

skin irritation and eye irritation.

**Delayed**

reproductive effects

**Indication of Immediate Medical Attention and Special Treatment Needed, If Needed**
Treat symptomatically and supportively.

**Section 5 - FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**
Use carbon dioxide, regular dry chemical, regular foam or water.

**Unsuitable Extinguishing Media**
None known.

**Special Hazards Arising from the Chemical**

**Hazardous Combustion Products**

**Combustion:** Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

**Special Protective Equipment and Precautions for Firefighters**

May burn, but does not ignite readily.

**Fire Fighting Measures**
Move material from fire area if it can be done without risk. Cool containers with water. Avoid inhalation of vapors or combustion by-products. Use extinguishing agents appropriate for surrounding fire. Dike for later disposal. Stay upwind and keep out of low areas.

**Protective Equipment and Precautions for Firefighters**
Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

**Section 6 - ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8. Keep unnecessary people away, isolate hazard area and deny entry. Only personnel trained for the hazards of this material should perform clean up and disposal.
Methods and Materials for Containment and Cleaning Up
Ventilate the area. Stop leak if possible without personal risk. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Avoid release to the environment.

**Section 7 - HANDLING AND STORAGE**

Precautions for Safe Handling
Do not handle until all safety precautions have been read and understood. Do not breathe vapor or mist. Avoid contact with skin and eyes. Do not eat, drink, or smoke when using this product. Always wear recommended personal protective equipment. Wear personal protective clothing and equipment, see Section 8. Wash thoroughly after handling.

Conditions for Safe Storage, including any Incompatibilities
Store and handle in accordance with all current regulations and standards. Keep container tightly closed. Keep separated from incompatible substances.

Incompatibilities: strong acids, strong oxidizing materials

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

Component Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate (1317-65-3)</td>
<td>15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)</td>
<td>10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)</td>
<td>10 mg/m³ TWA LMPE-PPT 20 mg/m³ STEL (LMPE-CT)</td>
</tr>
<tr>
<td>Carbonic acid, calcium salt (1:1) (471-34-1)</td>
<td>10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)</td>
<td>10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide (White, Gray, Beige and Neutral only) (13463-67-7)</td>
<td>10 mg/m³ TWA</td>
<td>15 mg/m³ TWA (total dust)</td>
<td>10 mg/m³ TWA LMPE-PPT (as Ti) 20 mg/m³ STEL (LMPE-CT) (as Ti)</td>
</tr>
<tr>
<td>Dibutyl tin (818-08-6)</td>
<td>0.1 mg/m³ TWA (as Sn); 0.2 mg/m³ STEL (as Sn)</td>
<td>0.1 mg/m³ TWA (except Cyhexatin, as Sn)</td>
<td></td>
</tr>
<tr>
<td>Carbon black (<em>used in Gray and Black ONLY</em>) (1333-86-4)</td>
<td>3 mg/m³ TWA (inhalable fraction)</td>
<td>3.5 mg/m³ TWA</td>
<td>3.5 mg/m³ TWA; 0.1 mg/m³ TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.5 mg/m³ TWA LMPE-PPT 7 mg/m³ STEL (LMPE-CT)</td>
</tr>
</tbody>
</table>

Appropriate Engineering Controls
Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

<table>
<thead>
<tr>
<th>Eyes/Face Protection</th>
<th>Skin Protection</th>
<th>Glove Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.</td>
<td>Wear appropriate chemical resistant clothing.</td>
<td>Wear appropriate chemical resistant gloves.</td>
</tr>
</tbody>
</table>
Protective Materials
nitrile
Respiratory Protection
Use an approved respirator if exposure limits are exceeded or if irritation develops or persists.

* * *Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>various</td>
</tr>
<tr>
<td>Odor:</td>
<td>mild</td>
</tr>
<tr>
<td>pH:</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>&gt;200 °F</td>
</tr>
<tr>
<td>OSHA Flammability Class:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density (air = 1):</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity (water = 1):</td>
<td>1.0 – 1.2</td>
</tr>
<tr>
<td>Log KOW:</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not available</td>
</tr>
<tr>
<td>Volatility:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

Appearance: paste
Physical Form: paste
Odor Threshold: Not available
Melting Point: Not available
Evaporation Rate: Not available
Vapor Pressure: Not available
Density: Not available
Water Solubility: Slightly soluble
 coeff. Water/Oil Dist: Not available
Auto Ignition: Not available
Molecular Formula: Not available

* * *Section 10 - STABILITY AND REACTIVITY* * *

Reactivity
No reactivity hazard is expected.

Chemical Stability
Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions
Will not polymerize.

Conditions to Avoid
Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials
strong acids, strong oxidizing materials

Hazardous Decomposition Products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous Decomposition
Combustion: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

* * *Section 11 - TOXICOLOGICAL INFORMATION* * *

Acute Toxicity
Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
Carbonic acid, calcium salt (1:1) (471-34-1)
Oral LD50 Rat 6450 mg/kg
Titanium dioxide (White, Gray, Beige and Neutral only) (13463-67-7)
Oral LD50 Rat >10000 mg/kg
Safety Data Sheet

Product Identifier: Kleer Structural Sealant

Information on Likely Routes of Exposure

Inhalation
May be harmful if inhaled.

Ingestion
May be harmful if swallowed.

Skin Contact
May cause irritation of the skin. May cause irritation, redness, itching and burning.

Eye Contact
May cause irritation of the eyes. Contact may cause tearing, redness, a stinging or burning feeling, swelling, and blurred vision.

Immediate Effects
skin irritation, eye irritation

Delayed Effects
No information is available.

Medical Conditions Aggravated by Exposure
skin disorders, eye disorders

Irritation/Corrosivity Data
Causes skin, eye and respiratory irritation.

Respiratory Sensitization
No information available for the product.

Dermal Sensitization
No information available for the product.

Germ Cell Mutagenicity
No information available for the product.

Carcinogenicity
Results of a DuPont epidemiology study showed that employees who had been exposed to titanium dioxide pigments were at no greater risk of developing lung cancer than were employees who had not been exposed to titanium dioxide pigments. No pulmonary fibrosis was found in any of the employees and no associations were observed between titanium dioxide pigment exposure and chronic respiratory disease or lung abnormalities. Based on the results of this study, DuPont concluded that titanium dioxide pigment will not cause lung cancer or chronic respiratory disease in humans at concentrations experienced in the workplace.

Component Carcinogenicity

Titanium dioxide (13463-67-7)
- ACGIH: A4 - Not Classifiable as a Human Carcinogen
- IARC: Monograph 93 [2010]; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))
- DFG: Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles)
- OSHA: Present

Carbon black (1333-86-4)
- ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
- IARC: Monograph 93 [2010]; Monograph 65 [1996] (Group 2B (possibly carcinogenic to humans))
- DFG: Category 3B (could be carcinogenic for man, inhalable fraction)
- OSHA: Present

Reproductive Toxicity
May damage fertility or the unborn child

Specific Target Organ Toxicity - Single Exposure
No target organs identified.
* * *Section 12 - ECOLOGICAL INFORMATION* * *

**Ecotoxicity**
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Component Analysis - Aquatic Toxicity**
Diisononyl phthalate (28553-12-0)

- **Fish:** 96 Hr LC50 Brachydanio rerio: >100 mg/L [semi-static]; 96 Hr LC50 Lepomis macrochirus: >0.14 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: >0.17 mg/L [static]; 96 Hr LC50 Pimephales promelas: >0.19 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >0.14 mg/L [static]

- **Algae:** 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: >1.8 mg/L

- **Invertebrate:** 48 Hr EC50 Daphnia magna: >500 mg/L; 48 Hr EC50 Daphnia magna: >0.06 mg/L [Static]

**Persistence and Degradability**
No information available for the product.

**Bioaccumulation**
No information available for the product.

**Mobility**
No information available for the product.

**Biodegradation**
No information available for the product.

* * *Section 13 - DISPOSAL CONSIDERATIONS* * *

**Disposal Methods**
Dispose in accordance with all applicable federal, state/regional and local laws and regulations.

**Disposal of Contaminated Packaging**
Dispose of properly. Recycle if possible.

**Component Waste Numbers**
The U.S. EPA has not published waste numbers for this product's components.

* * *Section 14 - TRANSPORT INFORMATION* * *

**US DOT Information**
Not regulated as a hazardous material.

**TDG Information**
Not regulated as dangerous goods.

* * *Section 15 - REGULATORY INFORMATION* * *

**U.S. Federal Regulations**
None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**Acute Health:** No  **Chronic Health:** Yes  **Fire:** No  **Pressure:** No  **Reactive:** No
U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate</td>
<td>1317-65-3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>US</th>
<th>CA</th>
<th>EU</th>
<th>AU</th>
<th>PH</th>
<th>JP</th>
<th>KR</th>
<th>CN</th>
<th>NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate</td>
<td>1317-65-3</td>
<td>Yes</td>
<td>NSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbonic acid, calcium salt (1:1)</td>
<td>471-34-1</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, bis(2-propylheptyl)ester</td>
<td>53306-54-0</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N-[3-(Trimethoxysilyl)propyl]-1,2-ethanediamine</td>
<td>1760-24-3</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

** **Section 16 - OTHER INFORMATION** **

Summary of Changes

New SDS: 1.00
Safety Data Sheet

Product Identifier: Kleer Structural Sealant

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

The information contained herein is based on data considered accurate which has been obtained from other companies and organizations.

End of Sheet MAN-007