1. Identification of the substance/mixture and of the company

1.1 Product Name : High Consistency Rubber HR-1160(W)LAKE

1.2 Chemical Classification : Silicone compound

1.3 Recommended Product Usage
   and Limited Use : Silicone rubber fabrications

1.4 Company Details

   Manufacturer / Supplier : 
   Address : 
   Telephone Number : 
   Telefax : 

2. Hazard Identification

2.1 GHS Classification (ISHA) : Not applicable for GHS classification.

2.2 GHS Label Elements (ISHA)

   Symbol : Not applicable
   Signal Word : Not applicable
   Hazard Risk Statement : Not applicable

   Precautionary Statement

   Prevention : P262: Do not get in eyes, on skin, or on clothing.
                P264: Wash the contact area thoroughly after handling.

   Response : P305+351+338: IF IN EYES: Rinse cautiously with water for
               several minutes. Remove contact lenses if present and easy to
               do – continue rinsing.

   Storage : Not applicable
   Disposal : Not applicable

2.3 Other Hazard : None known

3. Composition / Information on Ingredients

3.1 Substance/Mixture : Mixture

3.2 Components

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name or Synonym</th>
<th>CAS No.</th>
<th>% (w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicone and Silicons, di-Me,</td>
<td>Polydimethylsiloxane, vinylidimethylsiloxane terminated</td>
<td>68083-19-2</td>
<td>20-30</td>
</tr>
<tr>
<td>vinyl group-terminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicone and Silicons, di-Me, Me</td>
<td>Dimethyl, methylvinylsiloxane, dimethylvinylsiloxane, dimethylvinyl terminated</td>
<td>68083-18-1</td>
<td>40-50</td>
</tr>
<tr>
<td>vinyl, vinyl group-terminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amorphous fumed silica</td>
<td>Silicon Dioxide</td>
<td>112945-52-5</td>
<td>20-30</td>
</tr>
<tr>
<td>Silicone and Silicons, di-Me,</td>
<td></td>
<td>70131-67-8</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>hydroxy-terminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silicone and Silicons, di-Me, Me</td>
<td></td>
<td>67923-19-7</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>vinyl, hydroxy-terminated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siloxanes and Silicones, di-Me, Me hydrogen</td>
<td>-</td>
<td>68037-59-2</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---</td>
<td>------------</td>
<td>-----</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>-</td>
<td>13463-67-7</td>
<td>&lt; 1</td>
</tr>
</tbody>
</table>

### 4. First Aid Measures

#### 4.1 First Aid Measures

**General**
In the case of accident, get medical attention immediately.

**Eyes**
Immediately flush eyes with water.
Get medical attention if irritation develops and persists.

**Skin**
Immediately flush skin with water.
Remove contaminated clothing and shoes.
Wash clothing before reuse.
Clean shoes before reuse.

**Inhalation**
Remove to fresh air.
Get medical attention.

**Oral**
DO NOT induce vomiting.
Get medical attention.
Rinse your mouth with water.

#### 4.2 Important Symptoms and Hazard Effects
No significant adverse effects from normal use.

#### 4.3 Personal Protection for First Aid or Rescue Personnel
No respiratory protection should be needed. Use proper protection – safety glasses as a minimum. Washing at mealtime and end of shift is adequate.

#### 4.4 Note to physicians
Treat symptomatically and supportively.

### 5. Fire-Fighting Measures

#### 5.1 Suitable Extinguishing Media
On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.

#### 5.2 Unsuitable Extinguishing Media
None established.

#### 5.3 Specific Hazards
Not available

#### 5.4 Special Fire Fighting Procedures
Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.
Remove undamaged containers from fire area if it is safe to do so.

#### 5.5 Special protective equipment for the Fire Fighters
Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.

### 6. Accidental Release Measures

#### 6.1 Personal Precautions
Use personal protective equipment. Follow safe handling advise and personal protective equipment recommendations.

#### 6.2 Environmental Precautions
Do not allow large quantities to enter drains or surface waters. Prevent further leakage or spillage if safe to do so.
If large amounts have been spilled, inform the relevant authorities.
6.3 Methods for Cleaning up

Observe all personal protective equipment recommendations described in this SDS. Collect and contain for salvage or disposal. For large spills, appropriate containment to keep material from spreading. Store recovered material in appropriate container. Laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which laws and regulations are applicable.

7. Handling and Storage

7.1 Handling Precautions

Use with adequate ventilation. Do not take internally. Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking. Take care to prevent spills, waste and minimize release to the environment.

7.2 Storage Conditions

Use reasonable care and store away from oxidizing materials. Do not apply direct heat. Store in accordance with the particular national regulations.

7.3 Unsuitable Packaging Materials

None established.

8. Exposure Controls / Personal Protection

8.1 Control Parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS No.</th>
<th>Exposure Limits / Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>TWA 10mg/m³ / KR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 15mg/m³ / OSHA(PEL)</td>
</tr>
</tbody>
</table>

8.2 Engineering Controls

Local Ventilation: None should be needed.

General Ventilation: Recommended. Minimize workplace exposure concentrations.

8.3 Personal Protective Equipment

Respiratory protection: No personal respiratory protective equipment normally required.

Eye protection: Recommendation - Protective goggles.

Hand protection: Wear appropriate glove.

Skin protection: Washing at mealtime and end of shift is adequate.

Hygiene Measures: Observe standard industrial hygiene practices for the handling of chemical substances. Do not eat or drink when handling.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Rubber-Crepe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odorless</td>
</tr>
</tbody>
</table>
pH : Not available
Melting Point/Freezing Point : Not available
Boiling Point/Range : Not available
Flash Point : > 100 degree C (Seta Closed Cup)
Characteristics of Explosives : Not available
Vapor Pressure @25 degree C : Not available
Vapor Density(air=1) : Not available
Specific Gravity : 1.12~1.16
Solubility : Not available
Octanol/Water Partition : Not available
Auto-ignition Temperature : Not available
Decomposition Temperature : Not available
Odor Threshold : Not available
Evaporation Rate : Not available
Flammability(Solid, Gas) : Not available
Viscosity(Cst) : Not available

The above information is not intended for use in preparing product specifications.

10. Stability and Reactivity

10.1 Stability : Stable.
10.2 Possibility of Hazardous Reaction : If stored and handled in accordance with standard industrial practices no hazardous reactions are known.
10.3 Conditions to Avoid : None known
10.4 Incompatible materials : None known
10.5 Hazardous decomposition products : If stored and handled properly- None known. Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C(302°F) through oxidation.

11. Toxicological information

11.1 Routes of Exposure : Skin contact and accidental ingestion.
11.2 Acute Toxicity
   Eyes : No significant irritation expected from a single exposure.
   Ingestion(Oral) : Low ingestion hazard in normal use.
   Inhalation : No significant effects expected from a single short-term exposure.
   Skin(Dermal) : No significant irritation expected from a single short-term exposure.
11.3 Chronic Toxicity

Ingestion(Oral) : Repeated ingestion or swallowing large amounts may injure internally
Inhalation : No known application information
Skin(Dermal) : No known application information
Other Health Hazard Information : No known application information

11.4 Skin Corrosion/Irritation : Not available

11.5 Serious Eye Damage/Irritation : Not available

11.6 Respiratory Sensitization : Not available

11.7 Skin Sensitization : Not available

11.8 Carcinogenicity

IARC : Not available
OSHA : Not available
ACGIH : Not available
NTP : Not available
EU CLP : Not available

11.9 Germ Cell Mutagenicity : Not available

11.10 Reproductive Toxicity : Not available

11.11 Specific target organ toxicity (Single Exposure) : Not available

11.12 Specific target organ toxicity (Repeated Exposure) : Not available

11.13 Aspiration Hazard : Not available

Components: Amorphous fumed silica

Acute Toxicity
Ingestion(Oral)  
LD50(Rat) : >5,000mg/Kg
Method: OECD Test Guideline 401
Comparable product

Inhalation
LC50(Rat): 0.139mg/l/h
Method: analogy OECD-method (maximum concentration attainable in experiments)
No deaths occurred.
Comparable product

Skin(Dermal)
Safety Data Sheet (SDS)
High Consistency Rubber
HR-1160(W)LAKE

LC50(Rabbit): >5,000mg/Kg
Comparable product

Skin Corrosion/Irritation
Species: Rabbit
Result: Not irritating
Method: analogy OECD-method
Comparable product

Serious Eye Damage/Irritation
Species: Rabbit
Result: Not irritating
Method: analogy OECD-method
Comparable product

Components: Titanium dioxide

Acute Toxicity
Ingestion(Oral)
LD50(Rat): >5,000mg/Kg
Interpretation: practically nontoxic

Skin Corrosion/Irritation
Species: Rabbit
Result: Not Irritating

Serious Eye Damage/Irritation
Species: Rabbit
Result: No eye irritating

Respiratory Sensitization
Species: Mouse
Result: Not sensitising

Carcinogenicity
Species: Mouse(B6C3F1)
Route of administration: oral; feed
Assessment: Based on the histopathological examination, TiO2 was neither toxic nor carcinogenic to B6C3F1 mice under the conditions of this bioassay.

Germ Cell Mutagenicity
in Vivo
Test: Bacillus subtilis recombination assay
Result: negative

in Vivo
Test: micronucleus assay
Species: Rat
Result: negative

Reproductive Toxicity
Test: Mechanistic investigation of the ovaries
Species: Mouse
Result: Not considered further for risk assessment purposes.

12. Ecological Information

12.1 Ecotoxicity

Fish : Not available
Daphnia and Invertebrate : Not available
Algae : Not available

12.2 Persistence and Degradability
Water
12.3 Bioaccumulative Potential
Bioaccumulation

Bioaccumulation : Not available
Degradability : Not available

12.4 Mobility in Soil

: This product is a solid and does not contain significant concentrations of water soluble constituents that may be leached from the product. It is therefore not likely to present a danger to terrestrial organisms.

12.5 Additional Environmental Information

: No Specific information is available.

Components: Amorphous fumed silica

EcoToxicity
Fish
LC50 (Brachydanio rerio): >10,000 mg/L / 96h
Method: OECD 203

Daphnia and Invertebrate
EC50 (Daphnia magna): >10,000 mg/L / 24h
Method: OECD 202

Persistence and Degradability Water
Inorganic product, Test of the biodegradability cannot be carried out.

Components: Titanium dioxide

EcoToxicity
Fish
LC50 (Fundulus heteroclitus): >1,000 mg/L
Duration: 96h

Daphnia and Invertebrate
EC50 (Daphnia magna): >1,000 mg/L
Duration: 48h

Algae
NOEC (Synebra ulna, Scenedesmus quadricauda, Stigeoclonium tenue): >= 1 mg/L
Duration: 32d

13. Disposal Considerations

13.1 Residual Waste

: This products fall under Industrial Waste based on Wastes Disposal and Public Cleansing Law. Dispose of in accordance with local regulations.

13.2 Contaminated Containers of Packaging

: Dispose of in accordance with local regulations.

13.3 Disposal precautions

: Dispose of in accordance with local regulations.

14. Transport Information
14.1 Road and Rail Transport : Not Applicable
14.2 Air Transport (IATA) Not subject to IATA regulations.
14.3 Sea Transport (IMDG) : Not subject to IMDG code.
   UN number : Not applicable
   Proper shipping name : Not applicable
   Class : Not applicable
   Subsidiary risk : Not applicable
   Packing group : Not applicable
   Labels : Not applicable
   EmS Code : Not applicable
   Marine pollutant : Not applicable

14.4 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable for product as supplied.

14.5 Special Requirements and Additional Information : None

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National and local regulations must be observed.
For information on labelling please refer to section 2 of this document.

15.2 Regulation under the Occupational Safety and Health Act
Harmful Substances Prohibited : Not Applicable
Harmful Substances Required : Not Applicable
Controlled Hazardous Substances

<table>
<thead>
<tr>
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<td></td>
<td>TWA 15mg/m³ / OSHA(PEL)</td>
</tr>
</tbody>
</table>

15.3 Regulation under the Chemical control Act
Toxic Chemicals : Not Applicable
Observational chemicals : Not Applicable
Restricted Chemicals : Not Applicable
Prohibited Chemicals : Not Applicable
Toxic Release Inventory : Not Applicable
Accident Precaution Chemicals : Not Applicable

15.4 Dangerous Substances Safety Management Act
Not Applicable to Dangerous Materials
15.5 Wastes Control Act

Industrial waste – Follow article 13 of the act to dispose the product waste

15.6 Other International Regulations

Details of international registration status
Listed on or in accordance with the following inventories

REACH - European Union : All Ingredients (pre-)registered or exempt.
KECL - Korea : All Ingredients listed, exempt or notified.
ENCS/ISHL - Japan : All components are listed on ENCS/ISHL or its exempt rule.
AICS - Australia : All Ingredients listed or exempt.
IECSC - China : All Ingredients listed or exempt.
DSL - Canada : Not determined.
PICCS - Philippines : All Ingredients listed or exempt.
NZIoC - New Zealand : All Ingredients listed or exempt.
TCSI - Taiwan : All Ingredients listed or exempt.
TSCA – USA : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

16. Other Information

16.1 Information Source : Internal Technical data
Raw material SDSs
OECD eChem Portal

16.2 Abbreviations
KR OEL : Occupational Exposure Limits Korea
KR OEL/TWA : Time Weighted Average
AICS : Australian Inventory of Chemical Substances
DSL : Domestic Substances List (Canada)
EmS : Emergency Schedule
ENCS : Existing and New Chemical Substances (Japan)
GHS : Globally Harmonized System
IARC : International Maritime Dangerous Goods
ISHA : Industrial Safety and Health Act
KECL : Korea Existing Chemicals List
MARPOL : International Convention for the Prevention of Pollution from Ships
NTP : National Toxicology Program
NZIoC : New Zealand Inventory of Chemicals
PICCS : Philippines Inventory of Chemicals and Chemical Substances
TCSI : Taiwan Chemical Substance Inventory
TSCA : Toxic Substances Control Act (United States)
This information is offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.