Dear Customer:

In order to comply with the Hazard Communication Law which went into effect November 25, 1985, and the Globally Harmonized System (GHS) regulation update introduced by the Occupational Safety and Health Administration (OSHA) in 2012, attached is the safety data sheet pertaining to our product noted above.

Additional sheets are available upon request. Please feel free to contact us if we can be of further assistance.

Sincerely,

Mager Scientific, Inc.
Customer Service
SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Name: LUCITE® ACRYLIC RESIN - POLY(MMA) BASED

Product Description: Polymer based on Methyl methacrylate.

This data sheet covers the following grades: LUCITE® 4F, 4FD, 4FS1

CAS No.: 9011-14-7

Identified use(s): Manufacture of dental products. Glass separation.

Uses advised against: None known.

Manufacturer: Lucite International, Inc., 7275 Goodlett Farms Parkway, Cordova, TN 38016-4909

Phone: 1-800-4-LUCITE

msdsinfo@lucite.com

Emergency Phone No.: 1-800-424-9300 (Transport Emergency)

1-877-886-2143 (Medical Emergency)

2. HAZARDS IDENTIFICATION

Hazard classification: Combustible dust

Label elements:

Signal word: Warning

Hazard statement(s): May form combustible dust concentrations in air.

Other hazards: Low toxicity under normal conditions of handling and use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical identity of the substance: Poly(Methyl methacrylate)

CAS No.: 9011-14-7

4. FIRST AID MEASURES

Description of first aid measures:

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN: Wash with plenty of water! ... If skin irritation or rash occurs: Get medical attention.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Obtain medical attention if ill effects occur.

Most important symptoms and effects, both acute and delayed:

Not applicable.

Indication of any immediate medical attention and special treatment needed:

None necessary.
5. **FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**
Water spray, foam, dry powder or CO₂.

**Unsuitable Extinguishing Media**
Do not use water jet.

**Special hazards arising from the substance or mixture**
Combustible but not readily ignited. By analogy with similar materials, the product may decompose if heated to temperatures above 392°F (200°C). Combustion or thermal decomposition will evolve toxic, irritant and flammable vapors.

**Special protective equipment and precautions for fire fighters**
A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

6. **ACCIDENTAL RELEASE MEASURES**

**Methods and materials for containment and cleaning up**
Caution - spillages may be slippery. Sweep up and shovel into waste drums or plastic bags. Wash the spillage area with water.

7. **HANDLING AND STORAGE**

**HANDLING**
Product as supplied: Avoid contact with eyes. Avoid prolonged skin contact. Unlikely to represent a dust hazard under normal handling conditions.

**Process Hazards**
The product may be suitable for a wide range of industrial applications and therefore it is impossible to make detailed recommendations regarding all process hazards. If the product is to be used in applications for which the hazards are not fully understood it is recommended to consult the supplier before use.

**STORAGE**
Acrylic polymers are supplied in either bags or bulk containers. Keep containers in a clean, cool and dry area away from heat sources. Natural ventilation is adequate.

Storage temperature (°C): Ambient.
Incompatible materials: None known.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>OSHA PEL TWA</th>
<th>ACGIH TWA</th>
<th>ACGIH STEL Company Std. TWA</th>
<th>Company Std. STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulates (Total dust)</td>
<td></td>
<td>15 mg/m³</td>
<td>Not</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Respirable dust)</td>
<td></td>
<td>5 mg/m³</td>
<td>established.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The following values apply to substances which may be evolved during thermal processing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>80-62-6</td>
<td>100 ppm</td>
<td>50 ppm</td>
<td>100 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>410 mg/m³</td>
<td>(205 mg/m³)</td>
<td>(410 mg/m³) (SEN:A4)</td>
<td>100 ppm</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**
Do not eat, drink or smoke at the work place. Provide adequate ventilation, including appropriate local extraction, to ensure that the occupational exposure limit is not exceeded. Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

**Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**
Wear eye/face protection.
Safety spectacles/goggles/full face shield.

**Skin protection**
Not normally required.

Respiratory protection
A suitable dust mask or dust respirator with filter type P may be appropriate. In the unlikely event of formation of particularly high levels of dust a self contained breathing apparatus may be appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Beads</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Typically methacrylate.</td>
</tr>
<tr>
<td>pH (Value)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting Range (°C)</td>
<td>150 - 230</td>
</tr>
<tr>
<td>Boiling Point (°C)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative Evaporation Rate (Ether = 1)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour pressure (Pascal)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor Density (Air=1)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.18</td>
</tr>
<tr>
<td>Solubility (Water)</td>
<td>Negligible.</td>
</tr>
<tr>
<td>Solubility (Other)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition Coefficient (n-Octanol/water)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Viscosity (mPa. s)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>Non-reactive material.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Hazardous Reactions</td>
<td>None known.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>Keep away from heat.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Hazardous Decomposition Product(s)</td>
<td>Methyl methacrylate, Carbon dioxide, Carbon monoxide.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Low oral toxicity.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Unlikely to be hazardous by inhalation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Unlikely to cause skin irritation.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Contains greater than 0.1% residual (Methyl methacrylate). During normal handling this will not constitute a hazard. If the polymer matrix is destroyed e.g. when the product is dissolved in organic solvent, chemical residues will be released from the polymer matrix. Under these conditions, they may produce an allergic reaction in persons already sensitised.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Dust may cause irritation.</td>
</tr>
</tbody>
</table>
12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is predicted to have low toxicity to aquatic organisms.

Persistence and degradability
The product is non-biodegradable in soil. There is no evidence of degradation in soil and water.

Bioaccumulative potential
The product has low potential for bioaccumulation.

Mobility
The product is predicted to have low mobility in soil.

Other adverse effects
None known.

13. DISPOSAL CONSIDERATIONS

The waste is considered to be non-hazardous. Clean scrap may be reprocessed. Incineration may be used to recover energy value. May be disposed of by landfill in accordance with local regulations. Certain packages are returnable. Please consult your local office for further details. Ensure that all packaging is disposed of safely.

14. TRANSPORT INFORMATION

Not Classified as Dangerous for Transport.

UN No.
Not applicable.

Proper Shipping Name
Not applicable.

Class
Not applicable.

Packing group
Not applicable.

Environmental hazards
Not applicable.

Special precautions for user
Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. REGULATORY INFORMATION

US Federal Regulations
SARA 302 - Extremely Hazardous Substances
Not applicable.

SARA 313 - Toxic Chemicals
None.

US State Regulations
California
SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM None known.
SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER None known.

Canadian Regulations
WHMIS Classification
Not classified.

NFPA Rating
Health 0
Flammability 1
Reactivity 0

NPCA-HMIS Rating
Health 0
Flammability 1
Reactivity 0
16. OTHER INFORMATION

The following sections contain revisions or new statements: 1

Date of preparation: 15 -January- 2015

Inventory Status

European Union To the best of our knowledge all chemicals in this product comply with REACH regulations.

United States (TSCA) Listed in TSCA

Canada (DSL/NDSL) Listed in DSL

Japan (ENCS) Listed in ENCS

Philippines (PICCS) Listed in PICCS

Australia (AICS) Listed in AICS

South Korea (KECI) Listed in KECI

China (IECSC) Listed in IECSC

Compliance with other Regulatory Chemical Inventories cannot be assumed, please contact supplier for further information.

LEGEND

Note: Not all of the following are necessarily contained in this Safety Data Sheet:

LTEL: Long Term Exposure Limit

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

PEL: Permissible Exposure Levels

OSHA: Occupational Safety and Health Administration

SARA: Superfund Amendments and Reauthorisation Act

WHMIS: Worker Hazardous Materials Information System

LUCITE® is the Registered Trade Mark of companies within the Lucite International Limited Group of companies.

MEDICAL USE: CAUTION: DO NOT USE IN MEDICAL APPLICATIONS INVOLVING IMPLANTATION IN THE HUMAN BODY.

Lucite International Inc. has performed no clinical testing on the use of this product in any medical application. Lucite International Inc. has no data to support the use of this product in any medical application. This product was not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. Lucite International Inc. has neither sought, nor received, approval from any regulatory agency for the use of this product in implantation in the human body or in contact with internal body fluids or tissues.

It is the responsibility of the end-product manufacturer to identify all market and use-specific regulations and to ensure compliance with these regulations.

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