SAFETY DATA SHEET

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

PRODUCT NAME

ELVACITE® ACRYLIC RESIN - POLY(iBMA) BASED

Product Description

Polymer based on iso-Butyl methacrylate. This data sheet covers the following grades: ELVACITE® 2045, 4067.

CAS No.

9011-15-8

Identified use(s)

Manufacture of inks, paints and varnishes.

Uses advised against

None known.

Manufacturer

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

Phone: 1-800-4-LUCITE

msds.info@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(iso-Butyl methacrylate)

CAS No.

9011-15-8

Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below:

<table>
<thead>
<tr>
<th>Substance identity</th>
<th>%W/W</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No classifiable hazardous ingredient(s).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact

IF ON SKIN: Wash with plenty of soap and 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

Do not induce vomiting. Rinse mouth. 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 302°F (150°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. Thermal processing requires adequate ventilation to remove any monomer decomposition products, and use of inert atmosphere may be required in some processes to safely decompose the resin when it is used as a binder. Any thermal processing must consider the time-temperature decomposition of the resin. 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
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</th>
<th>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>
<td></td>
</tr>
<tr>
<td>(Respirable dust)</td>
<td></td>
<td>5 mg/m³</td>
<td>established.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>iso-Butyl methacrylate</td>
<td>97-86-9</td>
<td>100 ppm</td>
<td>50 ppm</td>
<td>100 ppm (410 mg/m³) (SEN:A4)</td>
<td>50 ppm</td>
<td>100 ppm</td>
</tr>
<tr>
<td>(205 mg/m³)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></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.
Sk in 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

Form
Beads.

Color
White

Odour
Typically methacrylate.

pH (Value)
Not available.

Boiling Point (°C)
Not applicable.

Flash point (°C)
300

Relative Evaporation Rate (Ether = 1)
Not applicable.

Flammable Limits
Not applicable.

Vapour pressure (Pascal)
Not applicable.

Vapor Density (Air=1)
Not applicable.

Solubility (Water)
Negligible

Solubility (Other)
Not available.

Partition coefficient (n-Octanol/water)
Not applicable.

Viscosity (mPa. s)
Not available.

Explosive Properties
Not applicable.

10. STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions.

Hazardous Reactions
None known.

Conditions to avoid
Keep away from heat.

Materials to avoid
None known.

Hazardous Decomposition Product(s)
Iso-Butyl methacrylate, Carbon dioxide, Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Ingestion
Low oral toxicity.

Inhalation
Unlikely to be hazardous by inhalation.

Skin Contact
Unlikely to cause skin irritation.
Contains greater than 0.1% residual (iso-Butyl 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.

Eye Contact
Dust may cause irritation.

Repeated exposure toxicity

Chronic exposure
This type of material has been in use for many years with no evidence of adverse effects.

<table>
<thead>
<tr>
<th>CHEMICALS</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revision: GHS01
ELVACITE® ACRYLIC RESIN - POLY(iBMA) BASED
Date: 7 - September - 2013
Page: 3 / 5
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.

13. DISPOSAL CONSIDERATIONS

The waste is considered to be non hazardous. Clean scrap may be reprocessed. Certain packages are returnable. Please consult your local office for further details. Ensure that all packaging is disposed of safely.

Disposal methods
May be disposed of by landfill in accordance with local regulations. Incineration may be used to recover energy value.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)
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 MARPOL73/78 and the IBC Code
Not applicable.

15. REGULATORY INFORMATION

US Federal Regulations
Superfund reportable discharge
SARA 302 - Extremely Hazardous Substances
None

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, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

Date of preparation: 7 -September- 2013

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

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 Reauthorization Act
WHMIS: Worker Hazardous Materials Information System

ELVACITE® 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.

Subject to the exclusions and limitations set out below the Information contained in this publication or as otherwise supplied to the User is believed to be accurate and has been given in good faith. It is for the User to use the Information contained in this publication or as otherwise supplied to the User with care and satisfy itself of the suitability of the product for their intended use and the applicability of the advice given. Except to the extent that exclusion is prevented by applicable law Lucite International Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded and accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents. Copyright and Designs cannot be assumed.

Revision: GHS01
ELVACITE® ACRYLIC RESIN - POLY(IBMA) BASED
Date: 7 -September- 2013
Page: 5 / 5