SAFETY DATA SHEET

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

Product Name	ELVACITE® ACRYLIC RESIN - POLY(MMA/2EHA/MAA) BASED
Product Description	Polymer based on Methyl methacrylate, 2-Ethylhexyl acrylate and Methacrylic acid. This data sheet covers the following grades: ELVACITE® 2014.
CAS No.	25133-98-6
Identified use(s)	Manufacture of inks, paints and varnishes.
Uses advised against	Industrial/professional use only.
Manufacturer	Mitsubishi Chemical America, Inc., Specialty Resins Division, 9675 Bayport Boulevard, Pasadena, TX 77507, USA Phone: +1-713-758-8100 mcm.sdsinfo@m-chem.com
Emergency Phone No.	CHEMTREC 1-800-424-9300 (Within USA and Canada) CHEMTREC 1-703-527-3887 (Outside USA and Canada)

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/2-Ethylhexyl acrylate/Methacrylic acid)
CAS No.	25133-98-6

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

Substance identity	%W/W	CAS No.
2-Ethylhexyl acrylate	<1	103-11-7

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. Molten material can cause severe burns. Do NOT try to peel molten polymer from the skin. Cool rapidly with water.
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 CO_2.
Unsuitable Extinguishing Media	Do not use water jet.
Special hazards arising from the substance or mixture	Combustible but not readily ignited. May form combustible dust concentrations in air. Combustion or thermal decomposition will evolve toxic, irritant and flammable vapors. By analogy with similar materials, the product may decompose if heated to temperatures above 392°F (200°C).
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

Personal precautions, protective equipment and emergency procedures	Caution - spillages may be slippery.
Environmental precautions	Avoid release to the environment.
Methods and materials for containment and cleaning up	Sweep up and shovel into waste drums or plastic bags. Wash the spillage area with water.
Other advice	See Section: 8, 13

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. The following constitutes general advice: Extra care should be taken to prevent burns from contact with hot material. 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. All polymers degrade to some extent at their processing temperature, an effect which increases with increasing temperature. It is therefore impossible to be precise about which substances may be evolved. However, it is only the minor components which vary substantially. The major components are given in Section 10. 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

Substance	CAS No.	OSHA PEL TWA	ACGIH TWA	ACGIH STEL	Company Std. TWA	Company Std. STEL
Particulates (Total dust) (Respirable dust)		15 mg/m³ 5 mg/m³	10 mg/m³ 3 mg/m³			
The following values apply to substances which may be evolved during thermal processing.						
Methyl methacrylate	80-62-6	100 ppm 410 mg/m³	50 ppm (205 mg/m³)	100 ppm (410 mg/m³) (SEN;A4)	50 ppm	100 ppm
2-Ethylhexyl acrylate	103-11-7				5ppm (41 mg/m3) (Skin)	
Methacrylic acid	79-41-4	20 ppm (70 mg/m3)	20 ppm			

Appropriate engineering controls

Do not eat, drink or smoke at the workplace. 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

Wear suitable gloves.
Suitable materials: Butyl; EN 374.
Suitability of gloves should be confirmed with glove manufacturer. Change gloves, if contamination occurs or duration of activity exceeds breakthrough time. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection

A suitable dust mask or dust respirator with filter type P3 or FFP3 (EN143 or EN149) may be appropriate. In the unlikely event of formation of particularly high levels of dust a self contained breathing apparatus may be appropriate.

Thermal hazards

Wear thermal insulating gloves when handling hot masses.
Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate. In the unlikely event of formation of particularly high levels of vapor a self contained breathing apparatus may be appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Beads.
Color	White.
Odor	Typically methacrylate.
Boiling Point (°C)	Not applicable.
Flammable Limits	Not applicable.
Flash Point (°C)	300
pH (Value)	Not available.
Solubility (Water)	Negligible.
Solubility (Other)	Not available.
Partition Coefficient (n-Octanol/water)	Not applicable.
Vapor pressure (Pascal)	Not applicable.
Specific Gravity	1.18
Vapor Density (Air=1)	Not applicable.
Explosive Properties	Not applicable.
Oxidizing properties	Not applicable.
Relative Evaporation Rate (Ether = 1)	Not applicable.

Viscosity (mPa. s)	Not available.

10. STABILITY AND REACTIVITY

Reactivity	Non-reactive material.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None known.
Conditions to avoid	Avoid dust generation. Keep away from heat.
Incompatible materials	None known.
Hazardous decomposition product(s)	Methyl methacrylate, 2-Ethylhexyl acrylate, Methacrylic acid, Carbon dioxide, Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Ingestion	Based upon the available data, the classification criteria are not met. Low oral toxicity.
Inhalation	Based upon the available data, the classification criteria are not met. High concentrations of dust may be irritant to the respiratory tract. High concentrations of vapor from hot operations may be harmful, cause irritation of the respiratory tract and slight narcotic effects.
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met. Dust may cause irritation.
Skin sensitization data	It is not a skin sensitizer. (By analogy with similar materials) Contains: (Methyl methacrylate, 2-Ethylhexyl acrylate). 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.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Based upon the available data, the classification criteria are not met.

CHEMICALS	IARC	NTP	OSHA	ACGIH
2-Ethylhexyl acrylate	X			

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 in soil	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. 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 MARPOL 73/78 and the IBC Code	Not applicable.

15. REGULATORY INFORMATION

US Federal Regulations

TSCA Inventory Status : All chemicals in this product comply with TSCA rules and regulations including TSCA Section 5 (Inventory Rules).
Inventory Status : Active

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 2-Ethylhexyl acrylate

16. OTHER 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
A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.
R: Respirable particulate matter

MEDICAL USE: CAUTION: DO NOT USE IN MEDICAL APPLICATIONS INVOLVING IMPLANTATION IN THE HUMAN BODY.
Mitsubishi Chemical America Inc. has performed no clinical testing on the use of this product in any medical application. Mitsubishi Chemical America 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. Mitsubishi Chemical America 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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