



Material Safety Data Sheet

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|---|--|--------------------------------------|---|-------------|---|------------|---|---|
| NFPA | HMIS | Personal Protective Equipment | | | | | | |
|  | <table border="1"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center;">0</td> </tr> </table> | Health Hazard | 1 | Fire Hazard | 1 | Reactivity | 0 |  |
| Health Hazard | 1 | | | | | | | |
| Fire Hazard | 1 | | | | | | | |
| Reactivity | 0 | | | | | | | |
| | | See Section 15. | | | | | | |

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| Section 1. Chemical Product and Company Identification | | <i>Page Number: 1</i> |
| Common Name/ Trade Name | Polymethyl Methacrylate, Av. M.W. 120,000 | Catalog Number(s). P2845 |
| Manufacturer | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | CAS# 9011-14-7 |
| Commercial Name(s) | Acrylite; Acrypet; Acrysol ase; Crinothene; Delpet 50M; Delpet 60N; Delpet 80N; Diakon; Disapol M; Elvacite; Kallocryl K; Kallodent 222; Kallodent clear; LPT; Lucite; Metaplex 4002T; Metaplex NO; Osteobond; Palacos; Paraglas; Perspex; Plexiglas; PMMA; Pontalite; Repairsin; Riston; Romacryl; Shinkolite; Sol 90; Sol 95; Stellon Pink; Sumipex B-MH; Sumipex LG; Sumipex LO; Sumipex B-MHD; Superacryl AE; Superacryl O; Tensol 7 Torex G; Vedril | RTECS TR0400000 |
| Synonym | Methacrylic acid methyl ester polymers; Methyl methacrylate homopolymer; Methyl methacrylate polymer; Methyl methacrylate resin; Poly(methacrylic Acid Methyl Ester) | TSCA TSCA 8(b) inventory: Polymethyl Methacrylate; Toluene |
| Chemical Name | 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer | CI# Not available. |
| Chemical Family | Not available. | <u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000 |
| Chemical Formula | [CH ₂ C(CH ₃)(CO ₂ CH ₃)] _n | |
| Supplier | SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248 | |

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|--|--------------|-------------------------------|--------------------------------|--------------------------------|--------------------|
| Section 2. Composition and Information on Ingredients | | | | | |
| | | | <i>Exposure Limits</i> | | |
| Name | CAS # | TWA (mg/m³) | STEL (mg/m³) | CEIL (mg/m³) | % by Weight |
| 1) Polymethyl Methacrylate | 9011-14-7 | | | | >=98 |
| 2) Toluene | 108-88-3 | 100 | 150 | | <=2 |
| Toxicological Data on Ingredients | | | | | |
| Toluene: ORAL (LD50): Acute: 636 mg/kg [Rat]. DERMAL (LD50): Acute: 14100 mg/kg [Rabbit]. VAPOR (LC50): Acute: 49000 mg/m ³ 4 hours [Rat]. 400 ppm 24 hours [Mouse]. 30000 mg/m ³ 2 hours [Mouse]. | | | | | |

Section 3. Hazards Identification

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| Potential Acute Health Effects | Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. |
| Potential Chronic Health Effects | CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Toluene]; 3 (Not classifiable for human.) by IARC [Polymethyl Methacrylate] [Toluene] MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, brain. Repeated or prolonged exposure to the substance can produce target organs damage. |

Section 4. First Aid Measures

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| Eye Contact | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs. |
| Skin Contact | Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. |
| Serious Skin Contact | Not available. |
| Inhalation | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| Serious Inhalation | Not available. |
| Ingestion | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Serious Ingestion | Not available. |

Section 5. Fire and Explosion Data

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| Flammability of the Product | May be combustible at high temperature. |
| Auto-Ignition Temperature | No available |
| Flash Points | CLOSED CUP: >250°C (482°F). |
| Flammable Limits | Not available. |
| Products of Combustion | These products are carbon oxides (CO, CO2). |
| Fire Hazards in Presence of Various Substances | Slightly flammable to flammable in presence of heat. |
| Explosion Hazards in Presence of Various Substances | Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. |
| Fire Fighting Media and Instructions | SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| Special Remarks on Fire Hazards | Material in powder form, capable of creating a dust explosion. As with most organic solids, fire is possible at elevated temperatures |
| Special Remarks on Explosion Hazards | Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. |

Section 6. Accidental Release Measures

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| Small Spill | Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. |
| Large Spill | Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. |

Section 7. Handling and Storage

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| Precautions | Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids. |
| Storage | Keep container tightly closed. Keep container in a cool, well-ventilated area. |

Section 8. Exposure Controls/Personal Protection

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| Engineering Controls | Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. |
| Personal Protection | Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Dust respirator is needed only when handling the material in powdered form. |
| Personal Protection in Case of a Large Spill | Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
| Exposure Limits | Toluene TWA: 200 STEL: 500 CEIL: 300 (ppm) from OSHA (PEL) [United States] TWA: 50 (ppm) from ACGIH (TLV) [United States] SKIN TWA: 100 STEL: 150 from NIOSH [United States] TWA: 375 STEL: 560 (mg/m ³) from NIOSH [United States] Consult local authorities for acceptable exposure limits. |

Section 9. Physical and Chemical Properties

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| Physical state and appearance | Solid. (Powdered solid. Crystalline powder. Crystalline solid.) | Odor | Not available. |
| Molecular Weight | Not available. | Taste | Not available. |
| pH (1% soln/water) | Not applicable. | Color | White. |
| Boiling Point | Not available. | | |
| Melting Point | Not available | | |
| Critical Temperature | Not available. | | |
| Specific Gravity | 1.188 (Water = 1) | | |
| Vapor Pressure | Not applicable. | | |
| Vapor Density | Not available. | | |
| Volatility | Not available. | | |
| Odor Threshold | Not available. | | |
| Water/Oil Dist. Coeff. | Not available. | | |
| Ionicity (in Water) | Not available. | | |
| Dispersion Properties | See solubility in water, acetone. | | |
| Solubility | Soluble in acetone. Insoluble in cold water. Soluble in Ethyl Acetate, esters, ketones, aromatics an glycol ethers. Insoluble in alcohols, and aliphatic hydrocarbons. | | |

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Section 10. Stability and Reactivity Data

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| Stability | The product is stable. |
| Instability Temperature | Not available. |
| Conditions of Instability | Excess heat, incompatible materials, dust generation. |
| Incompatibility with various substances | Reactive with oxidizing agents, acids, alkalis. |
| Corrosivity | Not available. |
| Special Remarks on Reactivity | Not available. |
| Special Remarks on Corrosivity | Not available. |
| Polymerization | Will not occur. |

Section 11. Toxicological Information

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| Routes of Entry | Inhalation. Ingestion. |
| Toxicity to Animals | Acute oral toxicity (LD50): 636 mg/kg [Rat]. (Toluene). Acute dermal toxicity (LD50): 14100 mg/kg [Rabbit]. (Toluene). |
| Chronic Effects on Humans | CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Toluene]; 3 (Not classifiable for human.) by IARC [Polymethyl Methacrylate] [Toluene]. Contains material which may cause damage to the following organs: kidneys, liver, brain |
| Other Toxic Effects on Humans | Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation. |
| Special Remarks on Toxicity to Animals | Not available. |
| Special Remarks on Chronic Effects on Humans | May cause cancer based on animal test data. Polymethyl Methacrylate caused tumors when implanted in rats and mice. It is considered and equivocal tumorigenic agent by RTECS and is not classifiable as to carcinogenicity in humans by IARC. May contain trace amounts of Toluene which can cause birth defects and adverse reproductive effects. |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects: Skin: Contact with powder may cause skin irritation. Eyes: Dust may cause eye irritation due to mechanical action. Inhalation: Inhalation of dust may cause respiratory tract due mechanical action. Ingestion: Expected to be a low hazard. May cause digestive tract irritation. Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact may cause allergic contact dermatitis. Inhalation: Repeated or prolonged inhalation of dust may cause allergic or asthmatic reaction. Ingestion: Prolonged or repeated ingestion may affect the liver, kidneys, and brain (expratolated from Methyl methacrylate) |

Section 12. Ecological Information

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| Ecotoxicity | Not available. |
| BOD5 and COD | Not available. |
| Products of Biodegradation | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation | The product itself and its products of degradation are not toxic. |
| Special Remarks on the Products of Biodegradation | Not available. |

Section 13. Disposal Considerations

Waste Disposal Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification Not a DOT controlled material (United States).

Identification Not applicable.

Special Provisions for Transport Not applicable.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Toluene
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: Toluene
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Toluene
 TSCA 8(b) inventory: Polymethyl Methacrylate; Toluene

California Proposition 65 Warnings California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Toluene

Other Regulations For Polymethyl Methacrylate (CAS no. 9011-14-7):
 EINECS: This product is not on the European Inventory of Existing Commercial Chemical Substances.
 Canada: Listed on Canadian Domestic Substance List (DSL).
 China: Listed on National Inventory.
 Japan: Listed on National Inventory (ENCS).
 Korea: Listed on National Inventory (KECI).
 Philippines: Listed on National Inventory (PICCS).
 Australia: Listed on AICS.

Other Classifications **WHMIS (Canada)** Not controlled under WHMIS (Canada).

DSCL (EEC) This product is not classified according to the EU regulations. Not applicable.

HMIS (U.S.A.)

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| Health Hazard | 1 |
| Fire Hazard | 1 |
| Reactivity | 0 |
| Personal Protection | E |

National Fire Protection Association (U.S.A.)

Health  Flammability
 Reactivity
 Specific hazard

WHMIS (Canada) (Pictograms)



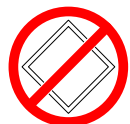
DSCL (Europe)
(Pictograms)



TDG (Canada)
(Pictograms)



ADR (Europe)
(Pictograms)



Protective Equipment



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent.



Safety glasses.

Section 16. Other Information

MSDS Code ZQ440

References Not available.

Other Special Considerations Major Uses: Polymethyl Methacrylate is an acrylic resin polymer. It is used as an ingredient in adhesives, to fix prosthetic components in orthopedic surgery, for its molding properties in dentistry, in intraocular implants, in antibiotic-impregnated beads for implantation following bone debridement, and as membranes for hemodialysis.

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Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.