

ISOBUTYL METHACRYLATE

BMI

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Isobutyl alpha-methacrylate Isobutyl 2-methyl-2-propenoate Methacrylic acid, isobutyl ester		Liquid	Colorless	Acrylic odor
		Floats on water.		
AVOID CONTACT WITH LIQUID AND VAPOR. KEEP PEOPLE AWAY. Wear self-contained positive pressure breathing apparatus and full protective clothing. Shut off ignition sources. Call fire department. Avoid contact with liquid or vapor. Notify local health and pollution control agencies. Protect water intakes.				
Fire	Combustible. Sealed containers may rupture explosively when exposed to heat. Extinguish small fires: dry chemical, CO ₂ , water spray or alcohol foam; large fires: water spray, fog or alcohol foam. Cool exposed containers with water. Combat fires from a safe distance or protected location.			
Exposure	CALL FOR MEDICAL AID. VAPOR Irritating to skin and eyes. Move to fresh air. LIQUID Irritating to skin and eyes. Harmful if swallowed. IF IN EYES OR ON SKIN, flush with running water for at least 15 min; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.			
Water Pollution	Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Fouling to shoreline. Notify local health and wildlife officials. Notify operators of nearby water intakes.			

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
 Contain
 Collection Systems: Skim
 Chemical and Physical Treatment: Burn;
 Absorb
 Clean shore line
 Salvage waterfowl

2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** 14; Acrylates
 2.2 **Formula:** CH₂=C(CH₃)CO₂CH₂CH(CH₃)₂
 2.3 **IMO/UN Designation:** 3.3/2283
 2.4 **DOT ID No.:** 2283
 2.5 **CAS Registry No.:** 97-86-9
 2.6 **NAERG Guide No.:** 130P
 2.7 **Standard Industrial Trade Classification:** 51373

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Wear self-contained positive pressure breathing apparatus and full protective clothing.
- 3.2 **Symptoms Following Exposure:** May be harmful if inhaled; may cause dizziness or suffocation. Irritating to skin and eyes. Harmful if swallowed.
- 3.3 **Treatment of Exposure:** INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min; hold eyelids open if necessary. Wash skin with soap and water. INGESTION: If CONSCIOUS, have victim drink milk or water. Do not induce vomiting. If UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
- 3.4 **TLV-TWA:** Not listed.
 3.5 **TLV-STEL:** Not listed.
 3.6 **TLV-Ceiling:** Not listed.
 3.7 **Toxicity by Ingestion:** Grade 1; LD₅₀ = 11,99 g/kg (mouse)
 3.8 **Toxicity by Inhalation:** Currently not available.
 3.9 **Chronic Toxicity:** Teratogen
 3.10 **Vapor (Gas) Irritant Characteristics:** Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
 3.11 **Liquid or Solid Characteristics:** Causes smarting of the skin and first degree burns on short exposure; may cause second-degree burns on long exposure.
 3.12 **Odor Threshold:** Currently not available
 3.13 **IDLH Value:** Not listed.
 3.14 **OSHA PEL-TWA:** Not listed.
 3.15 **OSHA PEL-STEL:** Not listed.
 3.16 **OSHA PEL-Ceiling:** Not listed.
 3.17 **EPA AEG1:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** 120°F O.C. 112°F C.C.
 4.2 **Flammable Limits in Air:** Currently not available
 4.3 **Fire Extinguishing Agents:** Small fires: dry chemical, CO₂, water spray or alcohol foam; large fires: water spray, fog or alcohol foam.
 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
 4.5 **Special Hazards of Combustion Products:** Thermal decomposition may yield oxides of carbon.
 4.6 **Behavior in Fire:** Combustible liquid. Sealed containers may rupture explosively when exposed to heat, due to polymerization.
 4.7 **Auto Ignition Temperature:** Currently not available
 4.8 **Electrical Hazards:** Class I, Group D
 4.9 **Burning Rate:** Currently not available
 4.10 **Adiabatic Flame Temperature:** Currently not available
 4.11 **Stoichiometric Air to Fuel Ratio:** 50.0 (calc.)
 4.12 **Flame Temperature:** Currently not available
 4.13 **Combustion Molar Ratio (Reactant to Product):** 15.0 (calc.)
 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
 5.2 **Reactivity with Common Materials:** No reaction
 5.3 **Stability During Transport:** Stable. Store away from heat, catalysts and strong oxidizing agents.
 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
 5.5 **Polymerization:** Will occur with elevated temperatures and on contact with oxidizing agents.
 5.6 **Inhibitor of Polymerization:** 25 ppm hydroquinone monomethyl ether, 10 ppm p-methoxy phenol (MEHQ)

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** Currently not available
 6.2 **Waterfowl Toxicity:** Currently not available
 6.3 **Biological Oxygen Demand (BOD):** Currently not available
 6.4 **Food Chain Concentration Potential:** Currently not available
 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: 0
 Damage to living resources: 1
 Human Oral hazard: 0
 Human Contact hazard: I
 Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** 100%
 7.2 **Storage Temperature:** Ambient
 7.3 **Inert Atmosphere:** No requirement
 7.4 **Venting:** Pressure-Vacuum
 7.5 **IMO Pollution Category:** D
 7.6 **Ship Type:** 3
 7.7 **Barge Hull Type:** 3

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Flammable liquid
 8.2 **49 CFR Class:** 3
 8.3 **49 CFR Package Group:** III
 8.4 **Marine Pollutant:** No
 8.5 **NFPA Hazard Classification:**
- | Category | Classification |
|----------------------|----------------|
| Health Hazard (Blue) | 2 |
| Flammability (Red) | 2 |
| Instability (Yellow) | 1 |
- 8.6 **EPA Reportable Quantity:** Not listed.
 8.7 **EPA Pollution Category:** Not listed.
 8.8 **RCRA Waste Number:** Not listed
 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
 9.2 **Molecular Weight:** 142.20
 9.3 **Boiling Point at 1 atm:** 311°F = 155°C = 428°K
 9.4 **Freezing Point:** Currently not available
 9.5 **Critical Temperature:** 642°F = 339°C = 612°K (est.)
 9.6 **Critical Pressure:** 387 psia = 26.3 atm = 2.66 MN/m² (est.)
 9.7 **Specific Gravity:** 0.8858 at 20°C
 9.8 **Liquid Surface Tension:** Currently not available
 9.9 **Liquid Water Interfacial Tension:** Currently not available
 9.10 **Vapor (Gas) Specific Gravity:** 4.9 (est.)
 9.11 **Ratio of Specific Heats of Vapor (Gas):** Currently not available
 9.12 **Latent Heat of Vaporization:** Currently not available
 9.13 **Heat of Combustion:** Currently not available
 9.14 **Heat of Decomposition:** Currently not available
 9.15 **Heat of Solution:** Currently not available
 9.16 **Heat of Polymerization:** Currently not available
 9.17 **Heat of Fusion:** Currently not available
 9.18 **Limiting Value:** Currently not available
 9.19 **Reid Vapor Pressure:** Currently not available

NOTES

ISOBUTYL METHACRYLATE

BMI

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
68	55.300		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I N S O L U B L E	68	0.030	68	0.00087		C U R R E N T L Y N O T A V A I L A B L E