



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

1. Product and Company Identification

Trade Name & Synonyms Cross linked Methacrylate Monomer, clear	MSDS Code Number P 871 0000
Chemical Name Crosslinked methacrylate monomer	Manufacture / Distributor GAC International Inc.
C.A.S. Number 80-62-6	Address 355 Knickerbocker Ave. Bohemia, NY USA 11716
Grades or Minor Variant Identities NA	Information Telephone Number 1-631-419-1700
Product Use (for Canada) NA	Emergency Telephone Number 1-631-419-1700

2. Composition of Ingredients

Hazardous Components Item	C.A.S. Number	Exposure Limits	%
01 Methyl methacrylate monomer	80-62-6	NA	60.0-100.0
02 Ethylene glycol dimethacrylate	97-90-5	NA	3.0-7.0
03 N,N-Dimethyl-p-Toluidine	99-97-8	NA	0.1-1.0
04 Benzophenone	131-57-7	NA	0.1-1.0
05 Dye	81-48-1	NA	0.5-1.5ppm
06 4-Methoxyphenol	150-76-5	NA	40-80ppm
Item TLV-TWA TLV-STEL PELTWA PELCeiling Recommendation Skin			
01 100ppm NE 100ppm NE 100 ppm NE	NA	NA	NA
02 NE NE NE NE NE NE	NA	NA	NA
03 NE NE NE NE NE NE	NA	NA	NA
04 NE NE NE NE NE NE	NA	NA	NA
05 NE NE NE NE NE NE	NA	NA	NA
06 5mg/m3 NE 5 mg/m3 NE NE NE	NA	NA	NA

3. Hazard Identification

Emergency Overview NA					
Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s)	Target Organ(s)
Eye yes	For mixture: May irritate eyes, skin and respiratory tract. For benzophenone: Eyes: May irritate. For dye: Eyes: Dust may irritate.	NA	NA	For methacrylate: Acute: May irritate. Chronic: Eyes: May cause eye corrosion and permanent injury. For dimethacrylate: Acute: Moderate irritant. For 4-methoxyphenol: Acute: Causes severe irritation. Chronic: Prolonged contact may cause tissue damage.	NA
Skin yes	For benzophenone: May irritate.	NA	NA	For methacrylate: Acute: May cause rashes. Chronic: May cause allergic skin rashes. For dimethacrylate: Acute: Moderate irritant/allergic sensitizer. Chronic: A major component in this product has been shown to produce allergic skin sensitization in guinea pigs. Cross-sensitization reactions to similar materials have also been reported in this species.	NA



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

				<p>Dermatitis has been seen in animal studies.</p> <p>For toluidine: Acute: Skin absorption: Liquid is rapidly absorbed through skin. Absorption of this product into the body causes the formation of methemoglobin, which in sufficient concentration causes cyanosis, symptoms include headache, dizziness, nausea and abdominal pain.</p> <p>Chronic: In case of blue discoloration (cyanosis) of skin, lips or fingernails give oxygen to breathe. No alcohol or physical exertion. Contact a physician.</p> <p>For 4-methoxyphenol: Acute: Skin absorption: Harmful.</p> <p>For 4-methoxyphenol: Chronic: Skin: May cause severe burns or irritation.</p>	
Inhalation yes	<p>For methacrylate: Symptoms: Head aches, nausea, staggering gait, confusion, drowsiness and unconsciousness.</p> <p>For dye: Respiratory tract: Dust may irritate.</p>	NA	NA	<p>For methacrylate: Respiratory tract: May irritate.</p> <p>For dimethacrylate: Acute: Slight hazard.</p> <p>For 4-methoxyphenol: Acute: Harmful. Respiratory tract: Irritating to mucous membranes.</p> <p>For 4-methoxyphenol: Chronic: Respiratory tract: May cause severe burns or irritation.</p>	NA
Ingestion	NA	NA	NA	<p>For dimethacrylate: Acute: Slight hazard.</p> <p>For 4-methoxyphenol: Acute: Harmful.</p>	NA
Other	NA	NA	NA	<p>For methacrylate: Chronic: Liver and kidneys: May cause changes in liver and kidney function or damage.</p> <p>Nervous system: Repeated and prolonged over exposure may cause permanent damage.</p>	NA
Medical Conditions Aggravated by Exposure					
NA					
Carcinogenicity (IARC, NTP)					
None of the components of this material are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.					
Potential Environmental Effects					
NA					

4. First Aid Measures

Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Delayed Effects
Eye	Flush with water for 15 minutes, including under eyelids.	NA	NA
Skin	Wash with soap and water. Clothing: wash thoroughly before reuse.	NA	NA
Inhalation	Remove to fresh air.	Get medical help if discomfort persists.	NA
Ingestion	Rinse mouth out with water. Do not induce vomiting.	Call doctor if amount was large.	NA
Other	NA	NA	NA
Note to Physicians (Treatment, Testing, and Monitoring)			
Treatment: Maintain airway. Provide oxygen and /or ventilation assistance if needed. Treat burns or allergic reactions conventionally after Decontamination.			



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

5. Fire and Explosion Data

Flashpoint & Method: 10°C / 51°F	Flammable (Explosive) Limits in Air LEL: 2.12 UEL: 12.5	Autoignition Temperature 435°C, 815°F	Other NA
Flame Propagation or Burning NA	Properties Contributing to Fire Intensity NA	Flammability Classification Health- , Flammability- , Reactivity-	
Extinguishing Media Chemical foam, carbon dioxide, dry chemical.		Extinguishing Media to Avoid NA	
Protection and Procedures for Firefighters Wear self contained breathing apparatus, and full protective gear. Use water spray to cool containers.			
Unusual Fire and Explosion Hazards Vapors may travel to source of ignition and flash back. Heat can cause polymerization with rapid release of energy which may rupture container explosively. (Spontaneous polymerization may occur on prolonged storage). Explosion hazard: Fight fire from protected location. Sensitive to mechanical impact: No. Sensitive to static discharge: Yes.			

6. Accidental Release Measures

Containment Techniques NA
Spill/Leak Clean-Up Procedures and Equipment Accidental release: Evacuate the area. Eliminate sources of ignition. Use self-contained breathing apparatus and protective clothing. Dike and absorb with inert material. Transfer to proper containers for disposal, use non-sparking tools. Contaminated monomer may be unstable, add inhibitor to prevent polymerization. Keep spills and cleaning runoffs out of sewers and open bodies of water. Spills on porous surfaces can contaminate the groundwater.
Evacuation Procedures NA
Special Instructions NA
Reporting Requirements NA

7. Handling and Storage

Handling Practices and Warnings Observe precautions found on the label. Close container after each use. Ground all metal containers when transferring. Use explosion-proof equipment.
Storage Practices and Warnings (°C / °F). Store in a cool dry place away from heat, sparks, flame and direct sunlight. Check inhibitor levels every three months.

8. Exposure Control/Personal Protection

Ventilation Use good, local explosion-proof ventilation with a minimum capture velocity of 100 ft/ min (30 m/ min) at point of monomer release. Refer to industrial ventilation: A manual of recommended practice published by the American conference of governmental industrial hygienists. Local exhaust ventilation is preferred since it prevents contamination dispersion into the work area by controlling it at its source.	Other Engineering Controls NA	
Routes of Entry:	Personal Protective Equipment (PPE) for Normal Use:	PPE for Emergencies:
Eye/Face	Safety glasses or chemical splash goggles.	NA
Skin	Protective gloves: Impervious, nitrile.	NA
Inhalation	Respiratory protection: Use self-contained breathing apparatus when needed.	NA



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

General Hygiene Considerations and Work Practices

Industrial hygiene practices: Wash face and hands thoroughly with soap and water after use and before eating, drinking, smoking or applying cosmetics.

Protective Measures During Repair and Maintenance of Contaminated Equipment

NA

Other Protective Measures and Equipment

Provide eyewash, safety shower and impervious clothing. Protective creams should not be used for protection, but may be used for ease of clean up.

9. Physical and Chemical Characteristics

Appearance Clear, pale liquid.		Odor Acrid, fruity. Odor threshold: N/D
Normal Physical State: <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Solid <input type="checkbox"/> ____ (Other)		Boiling Point 101 °C / 214°F Melting Point °C / °F NA Freezing Point °C / °F N/D
Specific Gravity or Density (H₂O=1) 0.94	Solubility in Water Moderate, 1.6gm/ 100 mg @ 20°C, 68°F	pH N/D
Vapor Pressure (mm Hg @ 20°C) 29mm Hg @ 20°C, 68°F	Vapor Density (AIR= 1) 3.5 @ 15.5°C, 60°F	Evaporation Rate (Butyl Acetate = 1) 3.0
Other Viscosity: Like water. Percent volatile W/W%: 99+. Coefficient of water / oil distribution: N/D		

10. Stability and Reactivity Data

Incompatibility (Materials to Avoid) Reducing and oxidizing agents and UV light. Material has strong solvent properties and can soften paint and rubber.	
Hazardous Products Produced During Decomposition Mainly oxides of carbon when burned.	
Hazardous Polymerization? <input checked="" type="checkbox"/> May Occur <input type="checkbox"/> May Not Occur	Conditions to Avoid °C / °F Temperatures above 21°C, 70°F, ignition sources, oxidizing/reducing agents, peroxides, acids, alkalis, amines, aging and contamination
Stability? <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Unstable	Conditions to Avoid °C / °F NA

11. Toxicological Information

Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic or Reproductive Effects, or Structure Activity Data Target organs: For methacrylate: Nose, liver and kidneys. For dimethacrylate: None listed. For toluidine: None listed. For benzophenone: None listed. For dye: None listed. For 4-methoxyphenol: None listed.	
Mutagenicity data: For Methacrylate: Ovary hamster Cytogenic analysis: 1600 mg/L Inhalation rat Cytogenic analysis: 4 mg/m ³ /16 W. Lymphocyte mouse Gene mutation in mammalian cells: 704 mg/L. Lymphocyte mouse Microsomal assay: 500 mg/L Ovary, hamster Sister chromatinid exchange: 1500 mg/L	
For Dye: S Typhimurium Microbial mutation without S9: 25 µ plate.	



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)



Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

Reproductive toxicity data:

For methyl methacrylate monomer:

Inhalation rat TC_{LO}: 109 mg/m³/17 M
Inhalation rat TC_{LO}: 109 mg/m³/54M, 6-15 days of pregnancy.
Inhalation rat TC_{LO}: 54mg/m³/24 H, 8 weeks or pregnancy.
Inhalation rat: TC_{LO}: 4480 mg/m³/2H, 6-18 days of pregnancy.
Intraperitoneal rat TC_{LO}: 405 mg/kg
Intraperitoneal rat TC_{LO}: 801mg/kg

For benzophenone:

Oral rat TD_{LO}: 45 mg/kg.

Toxicity data:

For methacrylate:

Acute oral rat LD₅₀: 7990 mg/kg.
Acute dermal rabbit LD₅₀: 35,000 mg/kg.
Acute inhalation rat LD₅₀: > 12,500 to 16,500 ppm for 0.5 hours.
Inhalation human TC_{LO}: 125ppm
Inhalation human TC_{LO}: 60mg/m³

Human patch test: Approximate one-third of subjects developed mild redness at the site of application. Twenty percent showed sensitivity when tested 10 days later.

For dimethacrylate:

Intraperitoneal rat LD₅₀: 2880 mg/kg
Oral mouse LD₅₀: 2000 mg/kg
Oral rat LD₅₀: 3300 mg/kg

For toluidine:

Intraperitoneal mouse LD₅₀: 212 mg/kg

For benzophenone:

Oral rat TD_{LO}: 45 mg/kg.
Oral rat TD_{LO}: 45 mg/kg.
Intraperitoneal mouse: LD₅₀: 300mg/kg
Oral rat LD₅₀: 7400 mg/kg.

For dye:

Intraperitoneal mouse LD_{LO}: 512 mg/kg.

For 4-methoxyphenol:

Oral rat LD₅₀: 1600 mg/kg
Intraperitoneal rat LD₅₀: 750 mg/kg
Intraperitoneal mouse LD₅₀: 250 mg/kg
Intraperitoneal rabbit LD₅₀: 970 mg/kg



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

12. Ecological Information

Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements

Aquatic toxicity:

For methacrylate:

Flathead minnows **TLm_{96H}** : 100-1000PPM and

Goldfish **TLm_{24H}** : 420 ppm

Bluegills **TLm_{24H}** : 368 ppm

13. Disposal Considerations

Regulations

Waste disposal method: When discarded it is listed as a hazardous waste by the RPA under RCRA U-162 with the reportable quantity (RQ) of 1000 pounds (40 CFR part 302). Incinerate liquid and diking material after addition of excess inhibitor, in accordance with federal, state, and local regulations.

Properties (Physical/Chemical) Affecting Disposal

Disposal of empty containers: Reuse of empty drums or containers is not recommended. Employees should be advised of the potential hazards, due to residual flammable material, associated with empty containers. It is our policy to discourage the reuse of empty containers and to dispose of all empty containers properly, in accordance with federal, state and local regulations.

14. Transport Information

Regulated for shipping?

Yes No

Proper Shipping Name

Packing Group

Do changes in quantity, packaging, or shipment method change product classification?

Yes No

Hazard Class

Identification Number

Other

DOT/UN shipping name: Methyl methacrylate monomer, inhibited, solution.

DOT/UN class: 3

NA/UN number: UN 1247

Packing group: Packing group II

NAERG: 129P

Label: Flammable liquid.

NMFC Item #: 42650

Schedule B: 2916.14.2020

IMDG class: 3.2

IMDG PG: 3259

CERLA RQ: **For methyl methacrylate monomer:** 1000 lb.

For hydroquinone: 100 lb.



MATERIAL SAFETY DATA SHEET

Form WI04-11A Rev. 1

Part Number(s):
97-310-20 (97-310-22)

Product Name: Methyl Monomer Clear

Release Date: April 19, 2007

15. Regulatory Information

Federal Regulations

Item	TSCA	EINECS	CERCLA	313	CAA	RCRA
01	X	X	X	X	X	X
02	X	X				
03	X	X				
04	X	X				
05	X	X				
06	X	X				

Item	CWA	PA	NJ	CA65	WHMIS
01		X	X		X
02					
03					
04					
05					
06		X			X

Item	TSCA	EINECS	CERCLA	313	CAA	RCRA
01	X	X	X	X	X	X
02	X	X				
03	X	X				
04	X	X				
05	X	X				
06	X	X				

Item	CWA	PA	NJ	CA65	WHMIS
01		X	X		X
02					
03					
04					
05					
06		X			X

Item	CWA	PA	NJ	CA65	WHMIS
01		X	X		X
02					
03					
04					
05					
06		X			X

TSCA: For use in FDA regulated products only

International Regulations

Canadian WHMIS: This product has been classified in accordance with the hazardous criteria of the CPR and MSDS contains all the information required by the CPR.

Other

Hazardous material identification system

(HMS) rating:

Health: 2

Flammability: 3

Reactivity: 2

Personal protective equipment: Gloves and safety glasses or chemical splash goggles.

National fire protection association (NFPA) hazard identification rating: Health: 2

Flammability: 3

Reactivity: 2

All 4-methoxyphenol and dye data given in this MSDS is for the dry powder, not as a component of a liquid mixture.

16. Other Information

Supplier Number:

Supplier Release: April 1, 1999

N/A = not applicable. NA = not available, N/E = not established. N/D = not determined.