



FLEXBAR MACHINE CORPORATION

MATERIAL SAFETY DATA SHEET  
Facsimile Powder

SECTION I - PRODUCT IDENTIFICATION

CHEMICAL NAME: Blended, Pigmented, Filled, Acrylic Polymers  
PRODUCT NAME: F. P. Tray Polymer, #64 Blue, Shade #26151

FOR USE IN FDA REGULATED PRODUCTS ONLY

DOT/UN SHIPPING NAME: SYNTHETIC GUM RESIN GRANULAR, NOIBN  
NMFC ITEM #46030, SCHEDULE B 3906.90.6000  
CAS REG. NO.: NE TRADE NAME/PRODUCT CODE: M 044 5066  
FORMULA: Proprietary Formulation

MANUFACTURER: Flexbar Machine Corporation  
ADDRESS: 250 Gibbs Road  
Islandia, NY 11749-2697

FOR INFORMATION CALL: 1-631-582-8440 During Business Hours  
1-610-497-9000, Then Press 6 At All Other Times

FOR EMERGENCY CALL: 1-800-424-9300, Chemtrec

PRINT DATE: 6/1/01 UPDATE : 09/20/00

PREPARED BY: CJB

SECTION II - HAZARDOUS INGREDIENTS OF MIXTURES

HAZARDOUS COMPONENT	CAS REG. NO.	%	TLV	(UNITS)	PEL	(UNITS)
Particulates NOC	NE	<99	10	mg/m <sup>3</sup>	15	mg/m <sup>3</sup>
Residual Monomers	NA	< 1	NA		NA	
Calcium Carbonate	471-34-1	<50	10	mg/m <sup>3</sup>	15	mg/m <sup>3</sup>
Benzoyl Peroxide	94-36-0	< 2	5	mg/m <sup>3</sup>	5	mg/m <sup>3</sup>
Mineral Pigment	57455-37-5	< 5	10	mg/m <sup>3</sup>	15	mg/m <sup>3</sup>

The decomposition product Ethyl Acrylate is known to the State of California as a substance which causes cancer.

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 2

## SECTION III - PHYSICAL DATA

BOILING POINT:	NA	SPECIFIC GRAVITY (H <sub>2</sub> O=1):	1.185
VAPOR PRESSURE:	NA	PERCENT VOLATILE W/W%:	< 5
VAPOR DENSITY (AIR=1):	NA	EVAPORATION RATE ( =1):	NA
SOLUBILITY IN WATER:	Insoluble.		
APPEARANCE AND ODOR:	Fine blue powder. Faint odor in bulk.		

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	304 °C 580 °F	FLAMMABLE LIMIT, AIR VOL% LOWER:	NA
		UPPER:	NA
AUTOIGNITION TEMPERATURE:	NE		
EXTINGUISHER METHOD:	Water, carbon dioxide, dry chemical.		

**SPECIAL FIRE FIGHTING PROCEDURES:**

Avoid extinguishing methods which may generate dust clouds. Water stream can disperse dust into air, producing a fire hazard and possible explosion hazard if exposed to ignition source.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust. Firefighters should wear self-contained breathing apparatus.

## SECTION V - HEALTH HAZARD DATA

**PRIMARY ROUTES OF ENTRY:** Eyes or skin(no absorption); inhalation of dusts.

**CARCINOGENICITY:**

Ethyl Acrylate, a product of combustion, is listed as a suspect carcinogen by IARC, NTP and ACGIH. None of the other components of this material are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.

**TARGET ORGANS:**

For Polymer: None Listed. For decomposition products: Methyl Methacrylate Monomer: Nose, Liver and kidneys, Ethyl Acrylate Monomer: None Available. For Calcium Carbonate: None Listed. For Benzoyl Peroxide: None Listed. For Mineral Pigment: None Listed.

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 3

## SECTION V - HEALTH HAZARD DATA CONTINUED

**THRESHOLD LIMIT VALUE (TLV):**

For Polymer: NE. For decomposition products, Methyl Methacrylate Monomer: 100 ppm, Ethyl Acrylate Monomer: None Available. For Calcium Carbonate: 10 mg/m<sup>3</sup>. For Benzoyl Peroxide: 5 mg/m<sup>3</sup>. For Mineral Pigment: 10 mg/m<sup>3</sup>.

**PERMISSIBLE EXPOSURE LIMIT (PEL):**

For polymer: NE. For decomposition products, Methyl Methacrylate Monomer: 100 ppm, Ethyl Acrylate Monomer: None Available. For Calcium Carbonate: 15 mg/m<sup>3</sup>. For Benzoyl Peroxide: 5 mg/m<sup>3</sup>. For Mineral Pigment: 15 mg/m<sup>3</sup>.

**TOXICITY DATA:**

For Polymer: None Listed. RTECS: Not Listed. TSCA: Listed.

For decomposition products, Methyl Methacrylate Monomer: LD<sub>50</sub> Acute Oral Rat: 7990 mg/kg. LD<sub>50</sub> Acute Dermal Rabbit: 35,500 mg/kg. LC<sub>50</sub> Acute Inhalation Rat: >12,500 to 16,500 ppm for 0.5 hours. TC<sub>Lo</sub> Inhalation Human: 125 ppm. TC<sub>Lo</sub> Inhalation Human: 60 mg/m<sup>3</sup>. 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.

Reproductive Effects: TC<sub>Lo</sub> Inhalation Rat: 109 gm/m<sup>3</sup>/54 minutes, 6-15 days of pregnancy. TC<sub>Lo</sub> Inhalation Rat: 54 mg/m<sup>3</sup>/24 hours, 8 weeks of pregnancy. TC<sub>Lo</sub> Inhalation Rat: 4480 mg/m<sup>3</sup>/2 hours, 6-18 days of pregnancy. RTECS: Listed. TSCA: Listed. EINECS: Listed.

Ethyl Acrylate: Inhalation LC<sub>Lo</sub>, Guinea Pig: 1204 ppm/7H. Inhalation TC<sub>Lo</sub>, human: 50 ppm. Inhalation LC<sub>Lo</sub>, Mouse: 25 mg/m<sup>3</sup>/2H. Inhalation LC<sub>50</sub>, Rat: 2180 ppm/4H. Inhalation LC<sub>Lo</sub>, Rabbit: 1204 ppm/7H. Intraperitoneal LD<sub>50</sub>, Mouse: 599 mg/kg. Intraperitoneal LD<sub>50</sub>, Rat: 450 mg/kg. Oral LD<sub>50</sub>, Mouse: 1779 mg/kg. Oral LD<sub>50</sub>, Rat: 800 mg/kg. Oral LD<sub>50</sub>, Rabbit: 400 mg/kg. Dermal LD<sub>Lo</sub>, rat: 1800 mg/kg. Dermal LD<sub>50</sub>, Rabbit: 1834 mg/kg. RTECS: Listed. TSCA: Listed.

For Calcium Carbonate: LD<sub>50</sub> Oral Rat: 6450 mg/kg. RTECS: Listed. TSCA: Listed.

For Benzoyl Peroxide: LD<sub>Lo</sub> Intraperitoneal Mouse: 250 mg/kg. LD<sub>50</sub> Oral Rat: 7710 mg/kg. RTECS: Listed. TSCA: Listed.

For Mineral Pigment: LD<sub>50</sub> Oral Mouse: > 10,000 mg/kg. LD<sub>50</sub> Oral Rat: > 10,000 mg/kg. RTECS: Not Listed. TSCA: Listed.

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 4

## SECTION V - HEALTH HAZARD DATA CONTINUED

**EFFECTS OF OVER EXPOSURE:**

For Polymer: OSHA classifies this material as Particulates, Not Otherwise Classified. Eyes, Skin and Respiratory Tract may be irritated by gross overexposure to Particulates, Not Otherwise Classified, no matter how they are generated. Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation.

For decomposition products, Methyl Methacrylate Monomer: Liquid or high vapor concentration can irritate eyes, respiratory system and cause skin rashes. Prolonged exposure can lead to headaches, nausea, staggering gait, confusion, drowsiness and unconsciousness. Repeated and prolonged over exposure may cause permanent brain and nervous system damage, allergic skin rashes, eye corrosion and permanent injury, as well as changes in liver and kidney function or damage.

Ethyl Acrylate: Inhalation of vapor or mist is harmful and can cause severe irritation of nose, throat and lungs. It may cause permanent, irreversible eye damage. It can be absorbed through the skin and cause skin sensitization. It is corrosive to the skin. Prolonged or repeated exposure can cause the allergic skin reaction, kidney damage and liver damage.

For Calcium Carbonate: Inhalation of dust may irritate the nose, throat, and respiratory tract, cause sneezing and coughing. Dust may irritate the eyes. Prolonged or repeated skin contact with the dust may irritate the skin. May aggravate pre-existing eye, skin or respiratory disorders.

For Benzoyl Peroxide: Prolonged skin contact may cause skin irritation. May cause eye irritation or damage. Dust may cause irritation of the nose, throat, and lungs. May produce muscular weakness upon ingestion.

For Mineral Pigment: None expected, but inhalation of large quantities of dust may cause irritation of the respiratory tract. Ingestion of large quantities may liberate sulfur dioxide.

For Dialkyl Phthalate: Inhalation of vapors or mists may cause irritation the respiratory tract and nausea. Ingestion of excessive quantities may cause nausea, abdominal pain and diarrhea. May cause irritation, burning, tearing and redness of the eyes. Prolonged or repeated contact may cause redness and burning of the skin.

**EMERGENCY AND FIRST AID PROCEDURES:**

INHALATION:	Remove to fresh air. Get medical help if discomfort persists.
EYES:	Flush with water for 15 minutes, including under eyelids. Get medical help if discomfort persists.
SKIN:	Wash with soap and water. Get medical help if discomfort persists.
INGESTION:	Rinse mouth out with water. Call doctor if amount was large.
CLOTHING:	Wash thoroughly before reuse.
TREATMENT:	Treat symptoms after thorough decontamination.

**HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:**

HEALTH:	1
FLAMMABILITY:	1
REACTIVITY:	0
PERSONAL PROTECTIVE EQUIPMENT:	Gloves and Safety Glasses or Chemical Splash Goggles.

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 5

## SECTION VI - REACTIVITY DATA

**STABILITY:** UNSTABLE: STABLE: X

**CONDITIONS TO AVOID:** Heating above 240 °C, 464 °F.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Acrylate and Methacrylate monomers, and Oxides of Carbon.

**HAZARDOUS POLYMERIZATION:** MAY OCCUR: WILL NOT OCCUR: X

**CONDITIONS TO AVOID:** NA

## SECTION VII - SPILL OR LEAK PROCEDURE

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

Sweep up to avoid slipping hazard. Keep airborne particulates at a minimum when cleaning up spills.

**ENVIRONMENTAL EFFECTS:****AQUATIC TOXICITY:**

For decomposition product, Methyl Methacrylate Monomer: Estimate of 96 hours median Threshold limit(TLm<sub>96</sub>): 100-1000 ppm. Flathead minnows and goldfish TLm<sub>24</sub>: 420 ppm. Bluegills TLm<sub>24</sub>: 368 ppm.

For Mineral Pigment: LC<sub>50</sub> Rainbow Trout: > 32,000 mg/l.

For Dialkyl Phthalate: Flathead minnow LC<sub>50-96hr</sub>: 1-10 µl/l; Water Flea LC<sub>50-96hr</sub>: 1-10 µl/l.

**ECOLOGICAL TOXICITY:**

For Benzoyl Peroxide: Ecological Toxicity is not known.

**OXYGEN DEMAND:**

For Dialkyl Phthalate: ThOD: 2.24 g/g; COD: 1.71 g/g; BOD: 0.34- 0.43 g/g.

**PLANT EFFECTS:**

For Dialkyl Phthalate: No adverse effects on germination or seedlings.

**WASTE DISPOSAL METHOD:**

Contains a Dialkyl Phthalate, contaminated product may be a RCRA/OSHA hazardous waste (40 CFR Part 261 and 29 CFR Part 1910). Incinerate material in accordance with Federal, State, and Local regulations.

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 6

## SECTION VIII - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION (SPECIFY TYPE):**

Use type for Particulates Not Otherwise Classified, if needed.

**VENTILATION:**

Use good local exhaust at processing equipment, including buffers, sanders, grinders and polishers.

**PROTECTIVE GLOVES:**

If hot plastic is handled.

**EYE PROTECTION:**

Safety glasses or chemical splash goggles.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:**

High temperature processing equipment should be well ventilated.

## SECTION IX - SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:**

Store in cool dry place. Keep container closed to prevent water absorption and contamination.

**OTHER PRECAUTIONS:**

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

PRODUCT: Type 044 Polymer

CODE: M 044 5066

PAGE 7

## SECTION X - ADDITIONAL INFORMATION

Prepared By: *Louis A. Valenti* Health, Safety and Environment

Reviewed By: *Brunel D. Cash* Technical Review

Reviewed By: *Jonathan Allen* President

Issue Date: 5/31/01

THIS MATERIAL SAFETY DATA SHEET IS PREPARED IN COMPLIANCE WITH FEDERAL REGULATIONS (29 CFR 1910.1200) AND THE COMMONWEALTH OF PENNSYLVANIA REGULATIONS (TITLE 34. CHAPTERS 301-323) ANY APPLICABLE STATE AND LOCAL REGULATIONS SHOULD BE CONSULTED. THE ABOVE INFORMATION MAY BE BASED IN PART ON INFORMATION PROVIDED BY COMPONENT SUPPLIERS AND IS BELIEVED TO BE CORRECT AS OF THE DATE HEREOF. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OF THESE DATA, THE RESULTS TO BE OBTAINED FROM THE USE OF THE MATERIAL, OR THE HAZARDS CONNECTED WITH SUCH USE. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS BEYOND OUR CONTROL AND WITH WHICH WE MAY BE UNFAMILIAR, AND SINCE DATA MADE AVAILABLE SUBSEQUENT TO THE DATE HEREOF MAY SUGGEST MODIFICATION OF THE INFORMATION, WE ASSUME NO RESPONSIBILITY FOR THE RESULT OF ITS USE. THIS INFORMATION AND MATERIAL IS FURNISHED ON THE CONDITION THAT THE PERSON RECEIVING IT SHALL MAKE HIS/HER OWN DETERMINATION AS TO THE SUITABILITY OF THE MATERIAL FOR HIS/HER PARTICULAR PURPOSE AND ON THE CONDITION THAT HE/SHE ASSUME THE RISK OF HIS/HER USE THEREOF.



FLEXBAR MACHINE CORPORATION

**MATERIAL SAFETY DATA SHEET**  
**Facsimile Liquid**

Page 1

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**CHEMICAL NAME:** Promoted Methacrylate Monomer

**PRODUCT NAME:** F. P. Monomer, Self Cure

**TRADE NAME/PRODUCT CODE:** P 902 0000

**PRODUCT USE:** Organic Process Chemical

**MANUFACTURER:** Flexbar Machine Corporation  
**ADDRESS:** 250 Gibbs Road  
 Islandia, NY 11749-2697

**24 HR. EMERGENCY TELEPHONE:** 1-800-424-9300, Chemtrec

**FOR INFORMATION CALL:** 1-631-582-8440 During Business Hours  
 1-610-497-9000, Then Press 6 At All Other Times

**PRINT DATE:** 6/1/01      **UPDATE:** 3/29/99

## SECTION 2 - COMPOSITION INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER:	WT/WT %
01	Methyl Methacrylate Monomer	80-62-6	60.0-100.0
02	N,N-Dimethyl-p-Toluidine	99-97-8	0.1-1.0
03	Benzophenone	131-57-7	0.1-1.0
04	Hydroquinone	123-31-9	40-80 ppm

ITEM	ACGIH		OSHA		Company Recommendation	SKIN
	TLV-TWA	TLV-STEL	PEL TWA	PEL CEILING		
01	100 ppm	NE	100 ppm	NE	100 ppm	NE
02	NE	NE	NE	NE	NE	NE
03	NE	NE	NE	NE	NE	NE
04	2 m/m <sup>3</sup>	NE	2 m/m <sup>3</sup>	NE	NE	NE

See Section 16 for Abbreviations.

Product: Promoted Monomer

Code: P 902 0000

Page 2

## SECTION 3 - HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:****WARNING:** For Mixture: May irritate eyes, skin and respiratory tract.**For Methacrylate:****Acute Hazards:****Eyes:**

May irritate.

**Respiratory Tract:**

May irritate.

**Skin:**

May cause rashes.

**Symptoms:**

Headaches, nausea, staggering gait, confusion, drowsiness and unconsciousness.

**Chronic Hazards:****Eyes:**

May cause eye corrosion and permanent injury.

**Liver and Kidneys:**

May cause changes in liver and kidney function or damage.

**Nervous System:**

Repeated and prolonged over exposure may cause permanent damage.

**Skin:**

May cause allergic skin rashes.

**For Toluidine:****Acute Hazards:****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.

**Chronic Hazards:**

In case of blue discoloration (cyanosis) of skin, lips or fingernails give oxygen to breathe. No alcohol or physical exertion. Contact a physician.

**For Benzophenone:****Eyes:**

May irritate.

**Skin:**

May irritate.

**For Hydroquinone:****Eyes:**

May irritate.

**Skin:**

May cause contact dermatitis and poisoning.

**Other Studies:**

300-500 mg/day/5 months caused no abnormalities in studies of blood and urine.

**CARCINOGENICITY:**

Hydroquinone is listed as a suspect carcinogen by NTP. All Hydroquinone data given in this MSDS is for the dry powder, not as a component of a liquid mixture. None of the other components of this material are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.

**PRIMARY ROUTES OF ENTRY:**

Inhalation, Skin or Eyes.

Product: Promoted Monomer

Code: P 902 0000

Page 3

**SECTION 4 - FIRST AID MEASURES****EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION:** Remove to fresh air. Get medical help if discomfort persists.  
**EYES:** Flush with water for 15 minutes, including under eyelids.  
**SKIN:** Wash with soap and water.  
**INGESTION:** Rinse mouth out with water. Do not induce vomiting. Call doctor if amount was large.  
**CLOTHING:** Wash thoroughly before reuse.  
**TREATMENT:** Maintain airway. Provide oxygen and/or ventilation assistance, if needed. Treat burns or allergic reactions conventionally after decontamination.

**SECTION 5 - FIRE FIGHTING MEASURES**

**FLASH POINT:** 10 °C , 51 °F  
**FLAMMABLE LIMIT, AIR VOL% LOWER:** 2.12  
**UPPER:** 12.5

**AUTOIGNITION TEMPERATURE:** 435 °C, 815 °F

**EXTINGUISHER METHOD:** Chemical foam, carbon dioxide, dry chemical.

**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.)

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self contained breathing apparatus, and full protective gear. Use water spray to cool containers.

**EXPLOSION HAZARD:** Fight fire from protected location.

**SENSITIVE TO MECHANICAL IMPACT:** No.

**SENSITIVE TO STATIC DISCHARGE:** Yes.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**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.

Product: Promoted-Monomer

Code: P 902 0000

Page 4

## SECTION 7 - HANDLING AND STORAGE

<b>PRECAUTIONS FOR HANDLING:</b>	Observe precautions found on the label. Close container after each use. Ground all metal containers when transferring. Use explosion-proof equipment.
<b>PRECAUTIONS FOR STORAGE:</b>	Store in cool dry place away from heat, sparks, flame and direct sunlight. Check inhibitor levels every three months.

## SECTION 8 - EXPOSURE CONTROL PERSONAL PROTECTION

<b>VENTILATION:</b>	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 <i>Industrial Ventilation: A Manual of Recommended Practice</i> 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.
<b>RESPIRATORY PROTECTION:</b>	Use self-contained breathing apparatus when needed.
<b>EYE PROTECTION:</b>	Safety glasses or chemical splash goggles.
<b>PROTECTIVE GLOVES:</b>	Impervious, nitrile.
<b>OTHER PROTECTIVE EQUIPMENT:</b>	Provide eyewash, safety shower and impervious clothing. Protective creams should not be used for protection, but may be used for ease of clean up.
<b>INDUSTRIAL HYGIENE PRACTICES:</b>	Wash face and hands thoroughly with soap and water after use and before eating, drinking, smoking or applying cosmetics.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Clear, pale liquid.
<b>ODOR:</b>	Acrid, fruity.
<b>pH:</b>	ND
<b>ODOR THRESHOLD:</b>	ND
<b>BOILING POINT:</b>	101 °C, 214 °F
<b>FREEZING POINT:</b>	ND
<b>VISCOSITY:</b>	Like water
<b>SPECIFIC GRAVITY (H<sub>2</sub>O=1):</b>	0.94
<b>VAPOR PRESSURE: 29 mm Hg @</b>	20 °C, 68 °F
<b>PERCENT VOLATILE W/W%:</b>	99+
<b>VAPOR DENSITY (AIR=1):</b>	3.5 @ 15.5 °C, 60 °F
<b>EVAPORATION RATE (BuAc =1):</b>	3.0
<b>SOLUBILITY IN WATER:</b>	Moderate, 1.6 gm/100 gm @ 20 °C, 68 °F
<b>COEFFICIENT OF WATER/OIL DISTRIBUTION: ND</b>	

Product: Promoted Monomer

Code: P 902 0000

Page 5

## SECTION 10 STABILITY AND REACTIVITY

<b>CONDITIONS TO AVOID:</b>	Temperatures above 21 °C, 70 °F, ignition sources, oxidizing/reducing agents, peroxides, acids, alkalis, amines, aging and contamination.
<b>INCOMPATIBILITY (MATERIALS TO AVOID):</b>	Reducing and oxidizing agents and UV light. Material has strong solvent properties and can soften paint and rubber.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Mainly Oxides of Carbon when burned.
<b>HAZARDOUS POLYMERIZATION:</b>	MAY OCCUR: X      WILL NOT OCCUR:
<b>STABILITY:</b>	UNSTABLE: X      STABLE:

## SECTION 11 TOXICOLOGICAL PROPERTIES

**TARGET ORGANS:**

For Methyl Methacrylate:	Nose, Liver and kidneys.
For Ethylene Glycol Dimethacrylate Monomer:	None Listed.
For Substituted Toluidine:	None listed.
For Benzophenone:	None Listed.
For Hydroquinone:	Kidneys and eyes.

**MUTAGENICITY DATA:**

For Methyl Methacrylate Monomer:		
Ovary Hamster	Cytogenetic Analysis:	1600 mg/L.
Inhalation Rat	Cytogenetic Analysis:	4 mg/m <sup>3</sup> /16W.
Lymphocyte Mouse	Gene Mutation in Mammalian Cells:	704 mg/L.
Lymphocyte Mouse	Microsomal Assay:	500 mg/L.
Ovary Hamster	Sister Chromatid Exchange:	1500 mg/L.
For Hydroquinone:		
HeLa Cell Human	DNA Inhibition:	100 µ mol/L.
Lymphocyte Mouse	DNA Inhibition:	10 µ mol/L.
Oral Rat	Unscheduled DNA Synthesis:	8 gm/kg.
Intraperitoneal Mouse	Micronucleus Test:	220 mg/kg.
Oral Mouse	Micronucleus Test:	200 mg/kg.
Subcutaneous Mouse	Micronucleus Test:	240 mg/kg/6D-C.
S. Typhimuriam	Microbial Maturation without S9:	2 µ mol/plate.
Lymphocyte Human	Sister Chromatid Exchange:	5 µ mol/L.
Lymphocyte Human	Test Systems Other:	5 µ mol/L.
Lymphocyte Mouse	Test Systems Other:	10 µ mol/L.
Bone Marrow Rabbit	Test Systems Other:	6 µ mol/L.

Product: Promoted Monomer

Code: P 902 0000

Page 6

## SECTION 11- TOXICOLOGICAL PROPERTIES CONTINUED

**REPRODUCTIVE TOXICITY DATA:****For Methacrylate:**

Inhalation Rat	TC <sub>Lo</sub> :	109 gm/m <sup>3</sup> /17M.
Inhalation Rat	TC <sub>Lo</sub> :	109 gm/m <sup>3</sup> /54M, 6-15 days of pregnancy.
Inhalation Rat	TC <sub>Lo</sub> :	54mg/m <sup>3</sup> /24H, 8 weeks of pregnancy.
Inhalation Rat	TC <sub>Lo</sub> :	4480 mg/m <sup>3</sup> /2H, 6-18 days of pregnancy.
Intraperitoneal Rat	TC <sub>Lo</sub> :	405 mg/kg.
Intraperitoneal Rat	TC <sub>Lo</sub> :	801mg/kg.

**For Benzophenone:**

Oral Rat	TD <sub>Lo</sub> :	45 mg/kg.
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**For Hydroquinone:**

Oral Rat	TD <sub>Lo</sub> :	2500 mg/kg.
Subcutaneous Rat	TD <sub>Lo</sub> :	5 mg/kg.
Subcutaneous Rat	TD <sub>Lo</sub> :	5100 mg/kg.

**TOXICITY DATA:****For Methacrylate:**

Acute Oral Rat	LD <sub>50</sub> :	7990 mg/kg.
Acute Dermal Rabbit	LD <sub>50</sub> :	35,500 mg/kg.
Acute Inhalation Rat	LC <sub>50</sub> :	>12,500 to 16,500 ppm for 0.5 hours.
Inhalation Human	TC <sub>Lo</sub> :	125 ppm.
Inhalation Human	TC <sub>Lo</sub> :	60 mg/m <sup>3</sup> .
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	LD <sub>50</sub> :	2880 mg/kg.
Oral Mouse	LD <sub>50</sub> :	2000 mg/m <sup>3</sup> .
Oral Rat	LD <sub>50</sub> :	3300 mg/m <sup>3</sup> .

**For Toluidine:**

Intraperitoneal Mouse	LD <sub>50</sub> :	212 mg/kg.
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**For Benzophenone:**

Oral Rat	TD <sub>Lo</sub> :	45 gm/kg.
Oral Rat	TD <sub>Lo</sub> :	54 gm/kg.
Intraperitoneal Mouse	LD <sub>50</sub> :	300 mg/kg.
Oral Rat	LD <sub>50</sub> :	7400mg/kg.

**For Hydroquinone:**

Human, Adult	LD:	70-170 mg/kg.
Human, Child	LD:	2.4-4.0 mg/kg.
Acute Oral, Rat	LD <sub>50</sub> :	400 mg/kg.
Acute Oral, Mouse	LD <sub>50</sub> :	100-200 mg/kg.
Dermal, Guinea Pig	LD <sub>50</sub> :	>1000 mg/kg.
Eye irritation, Rabbit	:	Moderate erythema clearing by day 14.

