



MATERIAL SAFETY DATA SHEET

MSDS-0155 (Part A)
X60 Kit
REV. DATE: 3/1/93

SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: X60 Liquid: Cold Curing Rapid Adhesive Powder

CHEMICAL FAMILY: Polymethylacrylate

SUPPLIER: OMEGA ENGINEERING INC.
PO BOX 4047
STAMFORD, CT 06907

DATE PREPARED: 5/3/88
SUPERSEDES: 9/84

TELEPHONE: (203) 959-1660

SECTION 1 - CHEMICAL SPECIFICATIONS

1.1 Chemical characterization: Polymethylacrylate-containing mixture
1.2 Form: powder
1.3 Color: white

SECTION 2 - PHYSICAL AND TECHNICAL SAFETY DATA

No data

SECTION 3 - TRANSPORTATION

No data

SECTION 4 - INSTRUCTIONS

No data

SECTION 5 - PROTECTIVE MEASURES FOR STORAGE AND HANDLING

5.1 Technical safety measures: Store in cool and dry location.

5.2 Personal safety equipment: **Eye protection:** Safety glasses
Hand Protection: Rubber gloves
Respiratory: Coarse dust mask

5.3 Work hygiene: Wash hands after work.



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SECTION 6 - WASTE DISPOSAL

- 6.1 Waste removal:** Product must be disposed of at a specific waste disposal facility under the observation of regulations of local authorities.
- 6.2 Type of waste:** Glue and adhesive waste
- 6.3 Waste designation:** **Glues:** hardened or past shelf life
- 6.4 Waste Code #:** 5 5 9 0 1

SECTION 7 - MEASURES FOR ACCIDENTS AND FIRES

- 7.1 After leakage/spills:** Sweep up
- 7.2 First aid:** **Eye contact:** Rinse well with water.
Skin contact: Wash off with water.
- 7.3 Medical help:** Medical help is necessary if the powder is swallowed.

SECTION 8 - TOXICOLOGY DATA

No data

SECTION 9 - ECOLOGICAL DATA

No data



SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: X60 Liquid: Cold Curing Rapid Adhesive Liquid**CHEMICAL FAMILY:** Activator - containing mixture of methylmethacrylate and 2-Hydroxy-ethylmethacrylate**SUPPLIER:** OMEGA ENGINEERING INC.
PO BOX 4047
STAMFORD, CT 06907**DATE PREPARED:** 5/3/88
SUPERSEDES: 9/84**TELEPHONE:** (203) 359-1660**SHIPPING NAME (UN NUMBER PER TRANSPORTATION AUTHORITY):** *also see section 3***DOT:** UN 1993 (Flammable Liquid N.O.S.) **Hazard Name:** Methacrylic Ester**IATA:** UN 1866 (Resin Solution)

SECTION 1 - CHEMICAL SPECIFICATIONS

1.1 Chemical characterization:	Activator-containing mixture of methylmethacrylate and 2-Hydroxy-ethylmethacrylate
1.2 Form:	liquid
1.3 Color:	pale yellow to pink
1.4 Odor:	Ester-like, stingingly unpleasant

SECTION 2 - PHYSICAL AND TECHNICAL SAFETY DATA

2.1 Change of State:	Boiling point: 101°C Melting point: -48°C
2.2 Density:	(20°C) 0.94 g/cm ³
2.3 Vapor Pressure:	(20°C) approximately 40 mbar
2.4 Viscosity:	(20°C) approximately 0.6 mPa.s (Brookfield, Sp.A / 60 Upm)
2.5 Solubility:	In Water: 1.59 g/l In Acetone: soluble
2.6 pH Value:	(20°C) approx. 5 (at 100 g/l water)
2.7 Flash Point:	15°C (DIN 51 755)
2.8 Fire Point:	430°C
2.9 Explosion Limit:	Lower: 2.1 Vol% (Methylmethacrylate) Upper: 12.5 Vol% (")



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SECTION 2 - PHYSICAL AND TECHNICAL SAFETY DATA (CONT'D)

- 2.10 Thermal Decomposition:** In accordance with defined use, none.
- 2.11 Dangerous Decomposition Products:** In accordance with defined use, none.
- 2.12 Dangerous Reactions:** In the presence of radical-forming or reducing substances and/or heavy metals and under the evolution of heat, polymerization is possible.
- 2.13 CAS - No.:** 80-62-6 (Methylmethacrylate)
- 2.14 EG - No.:** 607-035-00-6 (Methylmethacrylate)
- 2.15 Further Information:** Miscible with organic solvents

SECTION 3 - TRANSPORTATION

- 3.1 UN - No.:** 1993
- 3.2 GGVE / GGVS:** Class 3, Number 3b
- 3.3 GGVSee / IDMG Code:** Class 3.2
- 3.4 ICAO / IATA - DGR:** Class 3
- 3.5 RID / ADR:** Class 3, Number 3b
- 3.6 ADNR:** Class 3 (IIIa), Number 1a

SECTION 4 - INSTRUCTIONS

The product is identified under the regulations concerning dangerous substances (Dangerous substances Regulations - GefStoffV; BGI. (Code of Civil Law) I, p. 1470), dated August 26, 1986.

- 4.1 Identification:** Under GefStoffV supplement I, No. 2.2
Contains: N,N-Dimethyl-p-toluidene
Xn (slightly poisonous)
F (easily inflammable)
- 4.2 R - Sediments:**
(Danger Indications)
R 11 Easily flammable
R 20/21/22 Health danger upon inhalation, swallowing, and contact with the skin.
R 36/37/38 Irritates eyes, respiratory tract, and skin.
R 43 Sensitization through skin contact is possible.
- 4.3 S - Sediments:**
(Safety Suggestlons)
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition. Do not smoke.
S 29 Prevent passage into sewer system.
S 33 Take steps against electrostatic charge.
- 4.4 VbF:** Danger Class A 1



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SECTION 4 - INSTRUCTIONS (CONT'D)

4.5 MAK - Value: 100 ppm/410 mg/m³ (Methylmethacrylate)
(Maximum Concentration at the Workplace)

SECTION 5 - PROTECTIVE MEASURES FOR STORAGE AND HANDLING

- 5.1 Technical Safety Measures:** Fill container only to 80% since the oxygen in the air is necessary for stabilization.
Keep container tightly closed to prevent vaporization of monomers.
Do not store at over 30°C.
Keep from sources of ignition.
Protect from photoelectrical action.
Provide for good ventilation and/or exhaust-device at the workplace.
- 5.2 Personal Safety Equipment:** **Respiratory protection:** In the event of an accident, use mask with filter-apparatus, filtertype A.
Eye protection: Safety goggles
Hand protection: Rubber gloves
- 5.3 Work Hygiene:** Separate storage of work clothing.
Take off soiled or wet clothing.
Customary occupational hygienic practices are to be followed.
- 5.4 Fire and Explosion Safety** Keep from sources of ignition.
Take steps against electrostatic charge.
Upon fire, cool endangered containers.

SECTION 6 - WASTE DISPOSAL

- 6.1 Waste Removal:** Product must be disposed of at a specific waste disposal facility under observation of the regulations of local authorities.
- 6.2 Type of Waste:** Glue and Adhesive waste
- 6.3 Waste Designation:** **Glues:** hardened or past shelf-life.
- 6.4 Waste Code #:** 5 5 9 0 1



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SECTION 7 - MEASURES FOR ACCIDENTS AND FIRES

- 7.1 After leakage/spills:** Prevent passage into sewer system.
- Larger quantities:** Remove by mechanical means.
Smaller amounts: Pick up with fluid-binding materials (e.g. Sand, Kieselgur (diatomaceous earth), Saw-dust, or a universal-binder (such as Speedy-dry), etc.
The thus-removed substances are to be stored in separate, closed containers and disposed of as prescribed. Care is to be taken for sufficient room-ventilation or exhausting.
- 7.2 Extinguishing material:** Waterspray, foam carbon-dioxide, Halon, powder-type extinguisher.
DO NOT USE: Direct stream of water
- 7.3 First aid:**
- Eye contact:** Immediately rinse with running water for approx. 15 minutes with eyelid open.
Skin contact: Immediately rinse affected skin with large quantity of water, followed by ample application of Polyethyleneglycol 400 (e.g. Lutrol).
For continuing irritation, a dermatologist is to be consulted.
Other: Saturated items of clothing are to be removed immediately.
- 7.4 Medical Help** Medical help is necessary with symptoms which can obviously be traced back to a strong reaction of the product on the skin of inhalation of it's vapors.
- 7.5 Further Information:** None
- 7.6 Emergency Response Telephone Numbers:** (800) 255-3924 (813) 979-0626

SECTION 8 - TOXICOLOGY DATA

- 8.1 Toxicity Data:**
- Methylmethacrylate
LD 50 (oral, rat): 7.872 mg/kg
LD 50 (oral, mouse): 5.204 mg/kg
- 2-Hydroxyethylmethacrylate
LD 50 (oral, rat): 5.560 mg/kg
LD 50 (oral, mouse): 5.588 mg/kg
- N,N-Dimethyl-p-toluidine
LD 50 (oral rat): 1.100 mg/kg
- 8.2 Skin Sensitivity Test on Rabbits:**
Duration of Exposure 24 hours
- Methylmethacrylate
no irritation
- 2-Hydroxyethylmethacrylate
slight irritant
- N,N-Dimethyl-p-toluidine
mild irritant



SECTION 8 - TOXICOLOGY DATA (CONT'D)

8.3 Eye Sensitivity Test on Rabbits:

Methylmethacrylate
no irritation
2-Hydroxyethylmethacrylate
Strong irritant

8.4 Other:

The activator contained in a quantity of about 1.5% is poisonous in accordance with Dangerous Materials Regulations (N,N-Dimethyl-p-toluidine)
The other monomers contained in the product are less toxic according to the acute toxicity data.
With prolonged and/or frequent exposure, skin and eye irritations are possible.

SECTION 9 - ECOLOGICAL DATA

9.1 Danger to Ground Water Supply:

The methylmethacrylate contained in the product is classified in the catalog of water-endangering materials with the identification number 154 in the water-endangering Class WGK 1 (given in BMI of March 1, 1985 - U III 6 523 074/3-).

9.2 Other:

Values for acute toxicity for:
Mammals: 1
Fish: 3.5
Bacteria: 4.0
(Methylmethacrylate)

SECTION 10 - FURTHER INDICATIONS

10.1 Stability:

The adhesive is delivered in stable form.

10.2 Storage Time:

After substantially exceeding the allowable storage time and/or storage temperature, and upon exposure to heat, the adhesive can polymerize.

10.3 Other:

The information given is based on present knowledge. It serves the description of the product and does not guarantee the characteristics.

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