

**ACROPARS OP – LIQUID
COLD CURE ORTHODINTIC RESIN
MATERIAL SAFETY DATA SHEET**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

I- MANUFACTURER:

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II- TELEPHONE:

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III- PRODUCT:

ACROPARS OP – LIQUID

IV- CHEMICAL NAME:

METHYL METHACRYLATE

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENT (S):	CAS NO.	%	HAZARD SYMBOL:
Methyl Methacrylate	80-62-6	> 95	F,Xi
Crosslinker	97-90-5	< 5	Xi
Accelerator	99-97-8	< 1	Xn

3. HAZARDS IDENTIFICATION

- Highly flammable.
- Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact High atmospheric concentrations may lead to irritation of the respiratory tract and anesthetic effects. Repeated and/ or prolonged contact may cause dermatitis

4. FIRST - AID MEASURES

- **INHALATION:** Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention.
- **SKIN:** Remove contaminated clothing, Wash skin immediately with water. Of symptoms (irritation or blistering) occur obtain medical attention.
- **EYE:** Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
- **INGESTION:** Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention. Never give anything by mouth to an unconscious person. Call a physician.

NOTES TO PHYSICIAN: Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 ml water and mix thoroughly. Administer 5 ml/kg, or 350 ml, for an average adult.

5. FIRE FIGHTING MEASURES

- **FLASH POINT (METHOD):** 1.5°C (52.7°F)(TCC)
TEMPERATURE:
- **APPROX. FLAMMABLE LIMITS:** LEL 2.1% UEL 12.5%
- **AUTOIGNITION:** 421°C(789.8°F) Highly flammable. May polymerize on heating. Sealed containers may rupture explosively if hot.
- **EXTINGUISHING MEDIA:** Water spray, foam, dry powder or CO₂. Keep fire exposed containers cool by spraying with water.

• **FIRE FIGHTING PROTECTIVE EQUIPMENT:**

A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection during removal of spillages. Prevent entry into drains. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do not adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

7. HANDLING AND STORAGE

• **PRECAUTIONS FOR HANDLING:**

Observe precautions found on the label. Close container after each use. Ground all metal containers when transferring. Use explosion-proof equipment.

• **HANDLING:**

Avoid contact with skin and eyes.
Avoid inhalation of high concentration of vapors. Use only in well ventilated areas.
The vapor is heavier than air; beware of pits and confined spaces. Take precautionary measures against static discharges.

• **STORAGE:**

Keep only in original container. Store in cool, dry place away from heat, sparks, flame and direct sunlight. Keep container closed to prevent water absorption and contamination. Keep away from sources of ignition – No Smoking.

• **IMPORTANT:**

Methacrylate stored in bulk must be kept in contact with air (oxygen). Monomer vapors are uninhibited and may form polymers in vent or flame arresters, resulting in blockage of vents

• **STORAGE TEMPERATURE:**

Preferably not exceeding 25 °C.

• **INDUSTRIAL HYGIENE PRACTICES:**

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

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

The following information is given as general guidance.

• **RESPIRATORS:**

Wear suitable respiratory protective equipment to levels above the occupational exposure limit is likely. A suitable mask with filter type A maybe appropriate. In the event of formation of particularly high levels of vapor a self-contained breathing apparatus may be appropriate.

• **EYE PROTECTION:**

Safety glasses or chemical splash goggles.

• **GLOVES:**

Wear suitable gloves. PVA/Polythylene laminate and supported PVA gloves offer the best protection. Gloves should be Changed regularly and if excessive exposure has occurred.

• **OTHER:**

Wear suitable protective clothing.

• **OCCUPATIONAL EXPOSURE LIMITS:**

HAZARDOUS INGREDIENT (S):
Methyl Methacrylate

PEL (OSHA):
100 ppm, 410 mg/m³
8 Hr. TWA

TLV (ACGIH):
100 ppm, 410 mg/m³,
8 Hr. TWA

COMPANY RECOMMENDATION:
50 ppm, 205 mg/m³, 8 Hr.TWA;
100 ppm, 410 mg/m³ 15 min. STEL

9. PHYSICAL AND CHEMICAL PROPERTIES

• **VAPOR DENSITY (AIR=1):** 3.5 AT 15.5°C (60°F)

• **VAPOR PRESSURE (29 mmHg):** 20°C (68°F)

• **WATER SOLUBILITY:** 1.6% GM AT 20° C (68°F)

• PERCENT VOLATILE (WW%):	(H ₂ O=1): 99+
• BOIL POINT:	101° C, 214°F
• SPECIFIC GRAVITY:	0.94
• ODOR:	Characteristic
• FORM:	Liquid
• COLOR:	Colorless
• VISCOSITY:	Like water
• EVAPORATION RATE (BuAc=1):	3.0

10. STABILITY AND REACTIVITY

- **HAZARDOUS REACTIONS:** Stable in the presence of inhibitor.
Susceptible to polymerization initiated by prolonged heating or the presence of catalyst.
Incompatible materials: Polymerization catalysts, such as peroxy or azo compounds, strong acids, Alkalis and oxidizing agents.
- **HAZARDOUS DECOMPOSITION PRODUCT (S):** Does not decompose up to auto-ignition temperature.

11. TOXICOLOGICAL INFORMATION

- **INHALATION:** Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anesthetic effects.
- **SKIN:** May cause sensitization by skin contact. Irritating to skin. Repeated and / of prolonged contact may cause dermatitis.
- **EYE:** Irritating to eyes. High vapor concentration will cause irritation.
- **INGESTION:** Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

Repeated exposure to high levels produces adverse effects on the heart, lungs, liver, and kidneys.
- **LONG TERM EXPOSURE:**

Repeated exposure of animals by inhalation to levels at or above the occupational exposure level produces adverse effects on the nasal epithelium (levels of 100 and 400 ppm).

Recent studies in animals have shown that high exposures do not produce embryo or foetotoxic nor teratogenic effects in the presence of maternal toxicity.

None of these effects are likely to occur in humans, provided exposure is maintained at or below the occupational exposure limit.

• **TOXICITY DATA:**

For Methacrylate:

Acute Oral Rat LD ₅₀ :	7990 mg/kg
Acute Dermal Rabbit LD ₅₀ :	35,500 mg/kg
Acute Inhalation Rat: LD ₅₀	>12,500 to 16,500 ppm for 0.5 hours
Inhalation Human TC _{Lo}	125 ppm
Inhalation Human TC _{Lo}	60 mg/m ³
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.

12. ECOLOGICAL INFORMATION

- **ENVIRONMENTAL FATE AND DISTRIBUTION:** High tonnage material produced in wholly contained systems. Liquid with moderate volatility. The product is sparingly soluble in water.
The product has low potential for bioaccumulation. The product is predicted to have high mobility in soil.
- **PERSISTENCE AND DEGRADATION:** Not readily biodegradable.
Chemical Oxygen Demand (COD) 88% (28 days).

Inherent Biodegradation:
Dissolved Organic Carbon Removal (DOC removal) . 95% (28 days)/

- **TOXICITY:**
Low toxicity to fish.
LC₅₀ (fish) Typically: -.100 mg/l.
LC₅₀ (fathead minnow) (96 hour) (static) 130 mg/l
Harmful to aquatic invertebrates.
EC50 (Daphnia magna) (48 hour) 69 mg/l
Low toxicity to algae.
EC50 (selenastrum capricomutum) (96 hour) 170 mg/l
- **EFFECT ON EFFLUENT TREATMENT:**
The product is substantially removed in biological treatment processes.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, State or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of methyl methacrylate. Decontaminate empty drums before recycling.

14. TRANSPORTATION

- **UN NO.:** 1247
- **TRANSPORT BY LAND:**
UN no.: 1247
GGVS: Class 3, item 3b
ADR: Class 3, item 3b
GGVS/ADR note: Methyl methacrylate, inhibited.
GGVE: Class 3, item 3b
RID: Class 3, item 3b
GGVE/RID note: Methyl methacrylate, inhibited.
Tank lorry RN 10500: 339/1247
Packing group land: II
- **TRANSPORT THROUGH THE AIR:**
UN no./ID no: 1247
ICAO/IATA: Class 3
Technical name: Methyl Methacrylate, inhibited.
Packing group air: II
- **TRANSPORT BY SEA:**
UN no. sea: 1247
IMDG/GGVSee code: Class 3.2
EmS: 3-07
MFAG: 330
Technical name: Methyl methacrylate, inhibited.
Packing group sea: II
- **TRANSPORT BY INLAND WATERWAYS:**
ADNR: Class 3 (IIIa), item 1a
ADNR category: K 1 n
Note inland Waterways: Methyl methacrylate.
- **FURTHER INFORMATION:**
The product contains more than 70% methyl Methacrylate, monomer, stabilized by hydroquinone.
Registration EC list hazardous material:
Methyl methacrylate 607-035-00-6
Cross linker 607-114-00-5
Accelerator 612-056-00-9
Hydroquinone 604-005-00-4

15. REGULATORY INFORMATION

- **EC REGULATIONS:**
- **EINECS:** All chemical listed
- **EEC Classification:** HIGHLY FLAMMABLE AND HARMFUL
Symbol: Indication of Danger

F Highly Flammable
Xn Harmful

- **Risk Phrases:** R11 Highly flammable.
R20/21/22 Harmful by inhalation. And in contact with skin.
R36/37/38. Irritation to the eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.
- **Safety Phrases:** S9 Keep container in well ventilated place.
S 16 Keep away from sources of ignition. No smoking.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S33 Take precautionary measures against static discharges.
S36/37 Wear suitable protective clothing and gloves.
S60 This material and its container must be disposed of as hazardous waste.
- **CANADIAN REGULATIONS:**
- **DSL:** included
- **WHMIS Classification:** B2 Flammable Liquid
D2B Toxic
- **TSCA:** FOR USE IN FDA REGULATED PRODUCTS ONLY

16. OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) 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

This data sheet was prepared in accordance with Directive 91/155/EEC.

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