



# AMERICAN TOOTH INDUSTRIES

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## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>PRODUCT NAME</b>	Justi Study Model Material Liquid
<b>Product Description</b>	Methyl Methacrylate
<b>Manufacturer</b>	American Tooth Industries 1200 Stellar Drive Oxnard, CA 93033 805-487-9868 Emergency Phone Number: Infotrac: 800-352-5053
<b>Recommended use</b>	Pozzi Ortho Resin is a self-curing, high impact acrylic that was developed for orthodontic use in making strong and attractive appliances and retainers.
<b>Restrictions on use</b>	N/A

### 2. HAZARDS IDENTIFICATION

<b>Hazard classification</b>	Flammable liquid Category 2. Skin corrosion / irritation Category 2. Skin sensitization Category 1. STOT- single exposure Category 3. Hazardous to the aquatic environment- Acute Hazard Category 3.
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H225: Highly flammable liquid and vapor. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H335: May cause respiratory irritation. H402: Harmful to aquatic life.

**Symbol**



## Precautionary statements

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P233: Keep container tightly closed.  
P240: Ground/bond container and receiving equipment.  
P241: Use explosion-proof electrical/ventilating/lighting equipment.  
P242: Use only non-sparking tools.  
P243: Take precautionary measures against static discharge.  
P261: Avoid breathing vapors.  
P264: Wash thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P272: Contaminated work clothing should not be allowed.  
P273: Avoid release to the environment  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P303-P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in position comfortable for breathing.  
P312: Call a POISON CENTER or doctor/physician if you feel unwell.  
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.  
P362: Take off contaminated clothing and wash before reuse.  
P370+P378: In case of fire, use water spray, foam, dry powder or CO<sub>2</sub> for extinction.  
P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
P403+P235: Store in well-ventilated place. Keep cool.  
P405: Store locked up.  
P501: Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.

## Other hazards

Prolonged or repeated exposure can cause liver and kidney damage and an allergic reaction to the skin.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Statement for unknown toxicity	N/A
Chemical name	Methyl Methacrylate
Common name/synonyms	Stabilized methyl methacrylate monomer, 2-propenoic acid, 2-methyl-, methyl ester; MMA; MMM
Impurities and stabilizing additives	Standard grades contain inhibitors from among the following: 800 ppm Maximum Hydroquinone (CAS No. 123-31-9) p-Methoxyphenol (CAS No. 150-76-5) 2, 4-Dimethyl-6-t-butylphenol (CAS No. 1879-09-0) Octadecyl 3,5-di-tert-butyl-4-hydroxycinnamate (CAS No. 2082-79-3) Phenothiazine (CAS No. 92-84-2)

Chemical Name	Weight - %	CAS Number
Methyl Methacrylate	90-100%	80-62-6
Other Esther Adducts	0.1-0.3%	Not required
Hydroquinone	0.0026-0.0029%	123-31-9

\*Specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

### 4. FIRST AID MEASURES

#### Description of First Aid Measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell
<b>Skin Contact</b>	Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash before re-use.
<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain immediate medical attention.
<b>Ingestion</b>	Do not induce vomiting. Rinse mouth. Obtain immediate medical attention.

**Most important symptoms or effects, both acute and delayed:**

Causes skin irritation. May cause respiratory irritation. May cause an allergic skin reaction.

**Indication of immediate medical attention and special treatment needed:**

None necessary.

**5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**

In case of fire, use water spray, foam, dry powder or CO2 for extinction. Keep containers cool by spraying with water if exposed to fire.

**Unsuitable extinguishing media**

Do not use water jet.

**Special hazards arising from substance**

Highly flammable liquid and vapor. May polymerize on heating. Sealed containers may rupture explosively if hot.

**Special protective equipment and**

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

**Precautions for fire fighters**

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

Eliminate source of ignition. Wear protective gloves and eye/face protection. Avoid vapors. See Section. 8.

**Environmental precautions**

Avoid release to the environment. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

**Methods and materials for containment and cleaning up**

Collect spillage. Do not absorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Use only non-sparking tools.

**7. HANDLING AND STORAGE**

**Handling**

Do not eat, drink, or smoke at the work place. Wash thoroughly after handling. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. The vapor is heavier than air; beware of pits and confined spaces.

**Storage**

Ground container and receiving equipment. Use explosion proof electrical equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly

closed. Store in well-ventilated place. Keep cool. Store locked up. Keep away from heat, sparks, open flame, hot surfaces- No smoking. Protect from sunlight.

**IMPORTANT:** Methacrylates 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. Check inhibitor levels every 6 months and return to original level.

**Storage temperature**

Store at temperatures not exceeding 77°F (25°C).

**Incompatible materials**

Polymerization catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidizing agents, Oxides and salts of transition metals. Organic Nitrogen containing compounds. Cyclohexanone/cyclohexanol tautomer.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**OSHA Permissible Exposure Limits**

410 mg/m<sup>3</sup> TWA

**ACGIH Threshold Limit Values**

205 mg/m<sup>3</sup> TWA

**Other limitations recommended**

N/A

**Appropriate Engineering Controls**

Do not eat, drink, or smoke at the work place. Provide adequate ventilation, including appropriate local extraction, to ensure that the 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**

Liquid

**Color**

Various colors including Pink, Clear, Trans. Pink, Red, Purple, Magenta, Orange, Flour. Yellow, Green, Turquoise, Blue, Black and Gold

**Odor**

Characteristic strong and acrid.

**Odor Threshold (ppm)**

0.5-1.0

**pH**

N/A

**Melting Point (°C)**

-48

**Initial Boiling Point(°C)**

100.5

**Flash Point**

10 [Closed cup]

**Evaporation Rate**

N/A

**Flammability (solid, gas)**

N/A

**Upper/Lower Flammability limits**

12.5/2.1

**Vapor Pressure**

3600 AT 68°F (20°C)

**Vapor Density**

3.5

<b>Solubility</b>	Slightly soluble. 1.6% at 68°F(20°C)
<b>Partition Coefficient: n-octano/water</b>	1.38
<b>Auto-ignition Temperature</b>	421
<b>Decomposition Temperature</b>	N/A
<b>Viscosity</b>	N/A
<b>Explosive Properties</b>	N/A
<b>Oxidising Properties</b>	N/A
<b>Density (g/ml)</b>	0.949 at 60°F (15.5°C)
<b>Minimum Ignition Energy (mJ)</b>	0.89-0.97 at 73.5°F (23°C)

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Will exothermically polymerize in the presence of inhibitors.
<b>Chemical Stability</b>	Stable in the presence of inhibitor.
<b>Hazardous Reactions</b>	Susceptible to polymerization initiated by prolonged heating or at the presence of catalyst.
<b>Conditions to avoid</b>	Heat and direct sunlight.
<b>Materials to avoid</b>	Polymerization catalysts, such as proxy or azo compounds, strong acids, alkalis and oxidizing agents. Oxidize and salts of transition metals. Organic Nitrogen containing compounds. Cyclohexanone/cyclohexanol tautomer
<b>Hazardous Decomposition Products</b>	Does not decompose up to auto-ignition temperature.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	
<b>Inhalation</b>	May cause respiratory irritation. May cause drowsiness and dizziness.
<b>Inhalation toxicity data</b>	LC50 (vapor) 7093 ppm (29.8 mg/l) (4hr)
<b>Inhalation STOT- single exposure</b>	Exposure to high concentrations may produce adverse effects on the nasal epithelium.
<b>Respiratory sensitization data</b>	Not a respiratory sensitizer. Irritant to the respiratory system and high concentrations may aggravate pre-existing conditions.
<b>Ingestion</b>	Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.
<b>Ingestion toxicity data</b>	LD 50 (oral) > 500mg/Kg
<b>Ingestion STOT- single exposure</b>	N/A
<b>Skin contact</b>	May cause an allergic skin reaction. Causes skin irritation. Repeated and/or prolonged contact may cause dermatitis.
<b>Skin contact toxicity data</b>	LD50 (dermal) > 500 mg/Kg
<b>Skin contact STOT- single exposure</b>	N/A
<b>Skin sensitization data</b>	Skin sensitization has been reported in studies with guinea pigs. (OECD 406). Evidence of contact sensitization in man.
<b>Eye contact</b>	High vapor concentration will cause irritation.
<b>Eye contact toxicity data</b>	Slight irritant to rabbit eyes. (OECD 405)

<b>EyeSTOT- single exposure</b>	N/A
<b>Germ cell mutagenicity data`</b>	Salmonella typhimurium (TA1535, 1537, 97, 98, 100) negative (OECD 471)
<b>Repeated exposure toxicity</b>	Repeated exposure to high levels produces adverse effects on the heart, lungs, liver, and kidneys. 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) There is no reason to believe that methyl methacrylate represents a carcinogenic or mutagenic hazard to man based upon evidence from well conducted animal studies, relevant mutagenicity studies and adequate epidemiology studies in relevant cohorts. Recent studies in animals have shown that high exposures do not produce embryo or foetotoxic nor teratogenic effects in the presence of maternal toxicity.
<b>STOT- repeated exposure data</b>	NOEL (oral) (rat) (104 weeks) >2000ppm NOAEC (inhalation) (rat) (104 weeks) 100 ppm (OECD 453) NOAEC (inhalation) (mouse) (14 weeks) 1000 ppm (OECD 412)
<b>Reproductive toxicity</b>	Teratogenic and feotoxiceffects only observed in presence of maternal toxicity. NOAEC (mouse) = 9000 ppm NOAEC (rat) > 2028 ppm
<b>Carcinogenicity data</b>	No evidence of carcinogenicity. (OECD 451)
<b>Other information</b>	None

## 12. ECOLOGICAL INFORMATION (If available)

<b>Ecotoxicity</b>	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 capricornutum) (86 hour) 170mg/l NOEC (zebra fish) (35 day) (flow through) 8.4 mg/l The product is substantially removed in biological treatment processes.
<b>Persistence and degradability</b>	Readily biodegradable. Chemical Oxygen Demand (COD): 88% (28 days) Inherent Biodegradation.

	Dissolved Organic Carbon Removal (DOC) removal): >95% (28 days)
<b>Bioaccumulative potential</b>	This product has low potential for bioaccumulation.
<b>Mobility</b>	The product is predicted to have high mobility in soil.
<b>Other adverse effects</b>	None known.

### 13. DISPOSAL CONSIDERATIONS (If applicable)

**Avoid release to the environment. Decontaminate empty drums before recycling.**

<b>Disposal methods</b>	Dispose of contents/container to hazardous waste in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of flammable organics.
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### 14. TRANSPORT INFORMATION (If applicable)

<b>UN No.</b>	1247
<b>Proper Shipping Name</b>	METHYL METHACRYLATE MONOMER, STABILIZED If material is shipped in quantities greater than 1000 lb. per container, the Proper Shipping Name is RQ METHYL METHACRYLATE MONOMER, STABILIZED
<b>Class</b>	3
<b>Packing group</b>	II
<b>Special precautions for user</b>	No special requirements
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC code</b>	N/A
<b>Reportable Quantity (RQ)</b>	1000 lb
<b>TDG Class</b>	3.2 (9.2)
<b>TMD Packing Group</b>	II
<b>Marine Pollutant</b>	Not classified as a Marine Pollutant.

### 15. REGULATORY INFORMATION (If available)

<b>US Federal Regulations</b>	
<b>Superfund reportable discharge</b>	1000 lb



<b>SARA 302- Extremely Hazardous Substances</b>	Not listed
<b>SARA 311/312 Hazard Categories</b>	
Acute	Yes
Chronic	No
Fire	Yes
Reactivity	Yes
Pressure	No
<b>SARA 313- Toxic Chemicals</b>	Listed.

**US State Regulations**  
California

Proposition 65 (California): Not listed

**Canadian Regulations**  
WHMIS Classification

Class B, Division 2, Flammable Liquid  
Class D, Division 2, Subdivision B, Toxic Material  
Class F, Dangerously Reactive Material

**NFPA Rating**

Health	2
Flammability	3
Reactivity	2

**NPCA-HMIS Rating**

Health	2
Flammability	3
Reactivity	2

## 16. OTHER INFORMATION

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