



SAFETY DATA SHEET

Effective Date 11-May-2017

Version 4

1. IDENTIFICATION

Product Identifier

Product Name JET LIQUID / ORTHO-JET LIQUID / ORTHO-JET BCA LIQUID

Other means of identification

SDS# 028

UN/ID No UN1993

Product Code 0323, 0395, 0399, 1223, 1234, 1256, 1402X6, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1412, 1484, 1493 / 1303, 1304, 1306, 1307, 1308, 1309, 1323, 1334, 1356 / B1303, B1304, B1306, B1307, B1323, B1334, B1356, 1593, 2793, 2893

Recommended use of the chemical and restrictions on use

Recommended Use Self-curing acrylic resin

Details of the supplier of the safety data sheet

Supplier Address Lang Dental Mfg. Co., Inc.
175 Messner Dr.
Wheeling, IL 60090
USA

Emergency telephone number

Company Phone Number 847-215-6622
Emergency Telephone (INFOTRAC) 352-323-3500 (International)
800-535-5053 (North America)

Authorized European Representative

MediMark® Europe SARL
11, rue Emile Zola – BP 2332
38033 Grenoble Cedex 2
France
Tel: +33 476 86 43 22
Fax: +33 476 17 19 82
Email: info@medimark-europe.com

2. HAZARDS IDENTIFICATION

Classification

Flammable liquids	Category 2
Skin Corrosion / Irritation	Category 2
Skin Sensitization	Category 1
Specific Target Organ Toxicity - Single Exposure (Respiratory)	Category 3

Signal word Danger

Hazard statements H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.



Appearance Clear or slightly tinted **Physical state** Liquid **Odor** Acrid

Precautionary Statements – Prevention

- 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 dust/fume/gas/mist/vapors/spray.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements – Response

- 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 a 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 use.
- P370+P378 In case of fire: Use CO₂, for extinction.

Precautionary Statements – Storage

- P235 Keep cool.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements – Disposal

- P501 Dispose of contents/container in accordance with local regulation.

Hazardous component(s) for labeling Contains methyl methacrylate

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight - %	Trade Secret
Methyl Methacrylate	80-62-6	>95	*
N, N-Dimethyl-p-Toluidine	99-97-8	<2	*

*Specific chemical weight has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

- Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately.
- Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician immediately.

Ingestion Do NOT induce vomiting. Drink plenty of water or milk immediately. Never give anything by mouth to an unconscious person. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed. Call a physician or poison control center immediately.

Skin Contact Wash off immediately with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation or rash occurs, get medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms Exposed individuals may experience eye tearing, redness and discomfort. Prolonged skin contact may cause skin irritation and redness. Prolonged exposure in poorly ventilated area may cause respiratory irritation.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable: Chemical foam, carbon dioxide (CO₂), dry chemical

Unsuitable: Water spray

Specific hazards arising from the chemical

For bulk quantities of >182 kgs (400lbs) – High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during a runaway polymerization. Extremely flammable. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container. Vapor forms an explosive mixture with air.

Hazardous Combustion Products

Acrid smoke-fumes/carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Do not enter area without proper protection. Fight fire from safe distance/protected location. Heat /impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray to cool unopened containers. Pressure relief system may plug with solids creating risk of overpressure.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Before cleaning any spill or leak, individuals must wear personal protective equipment as required. Remove any contaminated clothing and wash thoroughly before reuse.

Environmental precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

Methods and material for containment and clean-up

Method for containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. DO NOT use combustible materials such as sawdust.

Method for clean-up Maximize ventilation and secure all sources of ignition. Place into appropriate closed container(s) for disposal in accordance with local, state and federal regulations. Wash all affected areas with plenty of warm water and soap.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Keep away from heat, sparks, and flame. Keep container closed after each use. Ground and bond all containers when transferring. Do NOT use localized heat source such as band heaters to heat/melt product. Do NOT steam. Hot boxes or hot rooms are recommended for heating the product, which can be set at a maximum temperature of 60°C/140°F. Avoid contact with skin, eyes and clothing. Use good personal hygiene and housekeeping. After use, wash hands and exposed skin with soap and water. Do not eat, drink, or smoke while handling product. Observe precautions found on the label.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition. Protect from direct sunlight. Keep container closed to prevent water absorption and contamination. Methacrylate stored in bulk quantities of >182 kgs (400lbs) must be kept in contact with air (oxygen). Keep at a temperature not exceeding 25°C. Vapors are uninhibited and may form polymers in vents or flame arresters, resulting in blockage of vents. Product residue may remain in empty containers.

Packaging materials

Keep in original container.

Incompatible materials

Strong oxidizing agents, strong reducing agents, free-radical generators, inert gases, oxygen scavengers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines

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.

Chemical Name	ACGIH TLV	OSHA PEL
Methyl Methacrylate 80-62-6	STEL: 100 ppm TWA: 50 ppm	TWA: 100 ppm TWA: 410 mg/m ³

ACGIH = American Conference of Governmental Industrial Hygienists / OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Levels / STEL – Short Term Exposure Limit / TLV – Threshold Limit Value / TWA = Time Weighted Average

Appropriate engineering controls

Engineering controls

For bulk quantities of >182 kgs (400lbs), use process enclosures, local exhaust ventilation or other engineering controls to control airborne exposure. Use local explosion-proof ventilation equipment.

Individual protection measures, such as personal protective equipment

Eye / face protection

Depending on the use of this product, safety glasses or goggles may be worn. If necessary, refer to US OSHA 29CFR SS1910.133, Canadian standards or the European Standard EN 166. Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.

Skin and body protection

If anticipated that prolonged and repeated skin contact will occur during use of this product, wear gloves for routine industrial use. If necessary, refer to US OSHA 29CFR SS1910.138 or the appropriate standards of Canada or the EC member states. Wear suitable protective clothing.

Respiratory protection

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

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. An eyewash station is recommended. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Wash hands thoroughly before eating, drinking, or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Acrid
Appearance	Liquid	Odor threshold	Not determined
Color	Clear or slightly tinted		

<u>Property</u>	<u>Values</u>	<u>Remarks / Method</u>
pH	Not determined	
Melting point / Freezing point	-48°C / -54.4° F	
Boiling point / boiling range	101°C / 214° F	
Flash point	12°C / 54°F	
Evaporation rate	Not determined	
Flammability (solid, gas)	n/a (liquid)	
Flammability limits in air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	
Vapor density	Not applicable	
Specific gravity	0.94	Water = 1
Water solubility	Not applicable	
Solubility in other solvents	Not determined	
Partition coefficient	Not determined	
Autoignition temperature	421°C / 790°F	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic viscosity	Not applicable	
Explosive properties	Not determined	
Oxidizing properties	Not determined	

Other information

Density	0.94 g/mL
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10. STABILITY AND REACTIVITY

Reactivity Unstable/Reactive upon depletion of inhibitor.

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions None under normal processing

Hazardous polymerization Hazardous polymerization may occur upon depletion of inhibitor. May cause heat and pressure build-up in closed containers.

Conditions to avoid

For bulk quantities of >182 kgs (400lbs) – Prolonged temperatures above 25°C (77°F), localized heat sources (e.g. drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing

Incompatible materials

Strong oxidizing agents, strong reducing agents, free-radical initiators, inert gases, oxygen scavengers.
Material has strong solvent properties and can soften paint and rubber.

Hazardous decomposition products Acrid smoke-fumes/ carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposures

Product information

Inhalation	Harmful if inhaled.
Eye contact	Causes severe eye irritation.
Skin contact	Causes skin irritation.
Ingestion	May be harmful if swallowed.

Component information

Chemical Name	ORAL LD ₅₀	DERMAL LD ₅₀	INHALATION TC _{Lo}
Methyl Methacrylate 80-62-6	>7900 mg/kg (rat)	>35,500 mg/kg (rabbit)	7094 ppm/ 4H (rat) 125 ppm 60 mg/ m ³ (human)
N, N-Dimethyl-p-Toluidine 99-97-8	1650 mg/kg (rat)	>2000 mg/kg (rat)	498 mL/m ³ (rat)

Information on physical, chemical and toxicological effects

Symptoms Exposed individuals may experience eye tearing, redness and discomfort. Prolonged skin contact may cause skin irritation and redness. Prolonged exposure in poorly ventilated area may cause respiratory irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause allergic skin reaction.
Carcinogenicity This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.
STOT – single exposure May cause respiratory irritation.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae / aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methyl Methacrylate 80-62-6	170: 96 h Pseudokirchneriella subcapitata mg/L EC50	243-275: 96 h Pimephales promelas mg/L LC50 flow-through; 125.5-190.7: 96 h Pimephales promelas mg/L LC50 static; 170-206: 96 h Lepomis macrochirus mg/L LC50 flow-through; 153.9-341.8: 96 h Lepomis macrochirus mg/L LC50 static; 326.4-426.9 96 h Poecilia reticulata mg/L LC50 static; >79: 96 h Oncorhynchus mykiss mg/L LC50 flow-through; >79: 96 h Oncorhynchus mykiss mg/L LC50 static	-	69: 48 h Daphnia magna mg/L EC50
N,N-Dimethyl-p-Toluidine 99-97-8	-	46-52: 96 h Pimphales promelas mg/L LC50	-	-

Persistence and degradability Not readily biodegradable
Bioaccumulation COD = 88% (28 days), DOC removal > 95% (28 days)
Mobility High mobility in soil.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Follow all local and national government regulations in disposing material or contaminated packaging.

For U.S. - Dispose of in accordance with federal, state and local regulations. When discarded, it is considered a hazardous waste by the EPA under RCRA. The reportable quantity for methyl methacrylate is 1000 lb. (40 CFR Part 302). Add excess inhibitor before disposing.

Contaminated Packaging

Reuse of empty drums or containers is not recommended. Employees should be advised of the potential hazards due to residual material associated with empty containers. Dispose of all empty containers in accordance with local and national government regulations.

14. TRANSPORTATION INFORMATION

DOT

UN / ID No	UN1993
Proper shipping name	Flammable liquid, n.o.s. (Methyl Methacrylate monomer, stabilized / N,N-Dimethyl-p-Toluidine solution)
Hazard Class	3
Packing Group	II
Reportable Quantity (RQ)	1000 lb. (methyl methacrylate)

IATA

UN / ID No	UN1993
Proper shipping name	Flammable liquid, n.o.s. (Methyl Methacrylate monomer, stabilized / N,N-Dimethyl-p-Toluidine solution)
Hazard Class	3
Packing Group	II

IMDG

UN / ID No	UN1993
Proper shipping name	Flammable liquid, n.o.s. (Methyl Methacrylate monomer, stabilized / N,N-Dimethyl-p-Toluidine solution)
Hazard Class	3
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Listed	United States Toxic Substances Control Act, Section 8(b) Inventory
DSL	Listed	Canadian Domestic Substances List
EINECS	Listed	European Inventory of Existing Chemical Substances

<u>EU Regulations</u>	EC No. 1272/2008 (CLP) Classification, Labeling, Packaging Medical Devices Directive 93/42/EEC - Class I Medical Devices
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<u>US Federal Regulations</u>	SARA 302 – Extremely hazardous substance - not listed SARA 311 / 312 Hazard Categories Acute health hazard Yes Chronic health hazard No Fire hazard Yes Sudden release of pressure hazard No Reactive hazard Yes SARA 313 – Toxic chemicals – listed.
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US State Regulations Not established

US State Right-to-Know Regulations

Pennsylvania – Methyl methacrylate CAS 80-62-6

16. OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability
	2	3	2
HMIS	Health Hazards	Flammability	Physical Hazards
	2	3	2

Effective Date 11-May-2017

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release. It is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet