SAFETY DATA SHEET

Issue Date 26-Sept-2014 **Revision Date** **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name AURORA LIQUID

Other means of identification
SDS# 043
UN/ID No UN1247
Product Code 2504, 2505, 2534, 2545

Recommended use of the chemical and restrictions on use
Recommended Use Fabrication of custom trays

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)

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity – Inhalation (Dusts/Mists)	Category 4
Skin corrosion / irritation	Category 2
Serious eye damage / eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 2

Signal word
Danger

Hazard statements Harmful if inhaled.
Causes skin irritation.
Causes severe eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Highly flammable liquid and vapor.

Appearance Clear **Physical state** Liquid **Odor** Acrid

Precautionary Statements – Prevention
Use only outdoors or in a well-ventilated area.
Wash face, hands and any exposed skin thoroughly after handling.
Wear protective gloves and clothing. Wear eye and face protection.
Contaminated clothing should not be allowed out of the workplace.
Do not breathe dust, fume, gas, mist, vapors or spray.
Keep away from heat, spark, open flame and hot surface. NO SMOKING.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Keep cool.

Precautionary Statements – Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs, get medical advice/attention.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
IN CASE OF FIRE: Use CO_2, dry chemical or foam for extinction.

Precautionary Statements – Storage Store in a well-ventilated place.
Keep container tightly closed.
Store locked up.

Precautionary Statements – Disposal Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) May be harmful if swallowed

Other Information Harmful to aquatic life with long lasting effects
Harmful to aquatic life

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight - %	Trade Secret
Methyl Methacrylate	80-62-6	<100	*

*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. Contact may cause irritation and redness. Prolonged exposure in poorly ventilated area may cause respiratory irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptoms conventionally, after thorough decontamination.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable: Chemical foam, carbon dioxide (CO_2), dry chemical
Unsuitable: Water spray

Specific hazards arising from the chemical
For bulk size >1L – 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. Use a water spray or fog to reduce or direct vapors. Extremely flammable. Vapors are heavier than air and may spread along the floors. Vapors may travel to source of ignition and flash back. Heat/impurities may cause pressure to build and/or rupture closed containers, spreading fire, increasing risk or burns/injuries.

Hazardous Combustion Products:	Carbon oxides
Sensitivity to Mechanical Impact:	No
Sensitivity to Static Discharge:	Yes

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Fight fire from a safe location.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use personal protective equipment as required. Ensure adequate ventilation. Remove any contaminated clothing and wash thoroughly before reuse.
Environmental precautions	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 Use only non-sparking tools. Wash all affected areas with plenty of warm water and soap.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Observe precautions found on the label. Keep containers closed when not in use. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Take precautionary measures against static discharges. Keep away from heat, sparks, open flames, and hot surfaces. NO SMOKING. Use personal protection recommended in Section 8. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not breathe dust, fume, gas, mist, vapor or spray.

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 (i.e. pilot lights, electric motors and static electricity). Protect from direct sunlight. Keep container closed to prevent water absorption and contamination. Methacrylate stored in bulk must be kept in contact with air (oxygen). Keep at a temperature not exceeding 25°C.

Packaging materials Keep in original container.

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

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	NIOSH IDLH
Methyl Methacrylate 80-62-6	STEL: 100 ppm TWA: 50 ppm	TWA:100 ppm TWA: 410 mg/m^3 TWA:100 ppm (vacated) TWA: 410 mg/m^3 (vacated)	IDLH: 1,000 ppm TWA: 100 ppm TWA: 410 mg/m^3

Appropriate engineering controls

Engineering controls Apply technical measures to comply with the occupational exposure limits.
Eyewash stations

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.

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		

Property	**Values**	**Remarks / Method**
pH	Not determined	
Melting point / freezing point	Not determined	
Boiling point / boiling range	101°C / 214° F	
Flash point	11.5°C / 52.7°F	
Evaporation rate	3.1	Butyl acetate = 1
Flammability (solid, gas)	n/a (liquid)	
Flammability limits in air		
Upper flammability limit	12.5%	
Lower flammability limit	2.12%	
Vapor pressure	28mm Hg	@ 20°C
Vapor density	3.5	@15.5°C (Air = 1)
Specific gravity	0.949	Water = 1
Water solubility	1.6 wt%	
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	Like water	
Explosive properties	Not determined	
Oxidizing properties	Not determined	

Other information

Density 0.949 g/mL

10. STABILITY AND REACTIVITY

Reactivity Not reactive under normal conditions

Chemical stability Unstable / reactive upon depletion of inhibitor

Possibility of hazardous reactions

None under normal processing

Hazardous polymerization Hazardous polymerization may occur. Monomer vapors are inhibited and may form polymers in vent or flame arresters, resulting in blockage of vents.

Conditions to avoid

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 generators, inert gases, oxygen scavengers
Material has strong solvent properties and can soften paint and rubber.

Hazardous decomposition products Carbon oxides

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 LD50	DERMAL LD50	INHALATION LC50
Methyl Methacrylate 80-62-6	7872 mg/kg (rat)	>5 g/kg (rabbit)	400 ppm (rat) 1 h 4632 ppm (rat) 4 h

Information on physical, chemical and toxicological effects

Symptoms Contact may cause irritation and redness. Exposed individuals may experience eye tearing, redness and discomfort. 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 Not classifiable as a human carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Methyl Methacrylate 80-62-6	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"

STOT – single exposure May cause respiratory irritation. May cause drowsiness or dizziness.
STOT – repeated exposure May cause damage to organs through prolonged or repeated exposure: liver, kidney, nose.

Numerical measures of toxicity – Product Not determined

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral)	3082	mg/kg
ATEmix (dermal)	5107	mg/kg
ATEmix (inhalation-dust/mist)	6848	Ppm

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long-lasting effects

Chemical Name	Algae / aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methyl Methacrylate 80-62-6	170: 96 h Psuedokirchneriella subcapitata mg/L EC50	125.5-190.7: 96 h Pimephales promelas mg/L LC50 static; 153.9-341.8: 96 h Lepomis macrochirus mg/L LC50 static; 170-206: 96 h Lepomis macrochirus mg/L LC50 flow -through; 243-275: 96 h Pimephales promelas mg/L LC50 flow-through; 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

Persistence and degradability Not readily biodegradable

Bioaccumulation Not determined

Mobility Potential for mobility in soil is very high.

Chemical Name	Partition coefficient
Methyl Methacrylate 80-62-6	0.7

Other adverse effects COD = 88% (28 days), DOC removal > 95% (28 days)

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes 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 properly in accordance with federal, state and local regulations.

Chemical Name	RCRA	RCRA – Basis for Listing	RCRA – D Series Wastes	RCRA – U Series Wastes
Methyl Methacrylate 80-62-6	U162	Included in waste stream; F039	-	U162

Chemical Name	California Hazardous Waste Status
Methyl Methacrylate 80-62-6	Toxic Ignitable

14. TRANSPORTATION INFORMATION

DOT

UN / ID No	UN1247
Proper shipping name	Methyl Methacrylate monomer, stabilized
Hazard Class	3

Packing Group	II
Reportable Quantity (RQ)	1000 lb.

IATA

UN / ID No	UN1247
Proper shipping name	Methyl Methacrylate monomer, stabilized
Hazard Class	3
Packing Group	II

IMDG

UN / ID No	UN1247
Proper shipping name	Methyl Methacrylate monomer, stabilized
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

US Federal Regulations

Chemical Name	CAS	Weight %	SARA 313 Threshold Values %
Methyl Methacrylate 80-62-6	80-62-6	>95	1.0

SARA 311 / 312 Hazard Categories

Chemical Name	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants	CWA – Hazardous Substances
Methyl Methacrylate 80-62-6	1000 lb.	-	-	X

Chemical Name	Hazardous Substances RQs	CERCLA / SARA RQ	Reportable Quantity (RQ) Final
Methyl Methacrylate 80-62-6	1000 lb.	-	1000 lb. / 454 kg

US State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methyl Methacrylate 80-62-6	X	X	X

16. OTHER INFORMATION

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

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Revision Note

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 a 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