SAFETY DATA SHEETS

This SDS packet was issued with item:

070441162

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

070425462 072760775 072760858

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

070469593 070639989 072759900 072759934 072760189 072760759 072760767 072760783 072760791 072760866 072760874 078562617 273044121 273045762

DENTSPLY International
DENTSPLY PROSTHETICS

Safety Data Sheet

Date Issued: 5/28/04
Document Number: 151
Date Revised: 09/09/2011
Revision Number:4

1. PRODUCT IDENTIFICATION

Trade Name (as labeled):	**Lucitone Liquid**
Product Identifier (Part/Item Number):	**684309, 684315**
U.N. Number:	**UN1247**
U.N. Dangerous Goods Classification:	**3, PG II**
Recommended Use:	**Fabrication of Dentures**
Restrictions on Use:	**For Professional Use Only**
Manufacturer/Supplier Name:	**Dentsply Prosthetics**
Manufacturer/Supplier Address:	**570 West College Ave.**
	York, PA 17405-0872
Manufacturer/Supplier Telephone Number:	**717-845-7511 (Product Information)**
Emergency Contact Telephone Number:	**800-424-9300 Chemtrec**
Email address:	**Prosthetics_MSDS@Dentsply.com**

2. HAZARD(s) IDENTIFICATION

EU Classification (1999/45/EC): Highly Flammable (F), Irritant (Xi) R11, R37/38, R43

Refer to Section 16 for the full text of the EU Classifications and R Phrases.

Labeling in accordance with 1999/45/EC


Highly Flammable


Irritant

Contains: Methyl Methacrylate
R11 Highly flammable.
R37/38 Irritating to respiratory system and skin
R43 May cause sensitization by skin contact.
S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.

US Hazard Classification: Hazardous.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Components	C.A.S. #	EINECS #	Substance Classification	WT %
Methyl Methacrylate	80-62-6	201-297-1	F, Xi, R11, R37/38, R43	90 - 99
Ethylene Glycol Dimethacrylate	97-90-5	202-617-2	Xi R36/37	1-10

Refer to Section 16 for the full text of the GHS and H phrases and EU Classifications and R Phrases.

4. FIRST-AID MEASURES

Routes of Exposure	First Aid Instructions
Eye	Flush eyes with water for at least 15 minutes, holding the eyelids apart. Get immediate medical attention.
Skin	Wash skin with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before re-use.
Inhalation	Remove victim to fresh air. If breathing is difficult, have qualified personnel administer oxygen, and obtain immediate medical attention.
Ingestion	If small quantities are swallowed, rinse out mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious or drowsy person. Get immediate medical attention.
Most important symptoms of exposure	May cause respiratory tract, eye and skin irritation. Prolonged or repeated contact may cause allergic skin reaction (skin rash). Inhalation of vapors may cause dizziness, headache, and other central nervous system effects.
Note to Physicians (Treatment, Testing, and Monitoring) Treat symptomatically.	

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:	Use carbon dioxide, foam, water spray or water fog.
Fire Fighting Procedures:	Fight fire from a safe distance of protected location. Water may be ineffective unless used as a fine spray or fog. Use water to cool fire-exposed containers.
Specific Hazards Arising from the Chemical:	Vapors are heavier than air and may travel to ignition source and flash back. Heat of fire may cause an exothermic auto polymerization reaction. Emits toxic fumes under fire conditions. Closed containers may explode due to pressure build up when exposed to extreme heat.
Precautions for Fire Fighters:	Do not enter fire area without proper protection. Firefighters should wear full emergency equipment and approved positive pressure self-containing breathing apparatus.

Recommended Protective Equipment for Fire Fighters:			
EYES/FACE	**HANDS**	**RESPIRATORY**	**THERMAL**
			

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, PPE and Emergency Procedures: Avoid contact with skin, eyes or clothing. Avoid breathing vapors. Provide explosion-proof ventilation. Wear appropriate protective clothing.

Environmental Precautions: Do not allow spills to enter sewers, waterways or the environment.

Methods and Materials for Containment and Clean-up: Eliminate all ignition sources. Contain and absorb spills with inert material and transfer to a suitable container for disposal.

Recommended Personal Protective Equipment for Containment and Clean-up:

EYES/FACE	HANDS	RESPRIATORY	THERMAL
			

7. HANDLING AND STORAGE

Precautions for Safe Handing: Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Keep away from heat, sparks and flames. Ground container when pouring. Do not expose to direct sunlight.

Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers.

Conditions for Safe Storage: Store in a cool, dry, well ventilated area. Keep container tightly closed when not in use. Do not store in direct sunlight. Prevent moisture contact. Protect from physical damage. Keep away from oxidizers and other incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

Methyl Methacrylate

50 ppm TWA TLV
100 ppm STEL TLV
100 ppm PEL
50 ppm TWA DFG MAK
50 ppm TWA UK WEL
100 ppm STEL UK WEL

Ethylene Glycol Dimethacrylate:

None established

Biological Exposure Limits: None

Appropriate Engineering Controls: Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits. Use explosion-proof equipment where required.

Individual Protection Measures (PPE)

Specific Eye/face Protection: Wear safety glasses when the possibility exists for eye contact due to splashing or spraying material.

Specific Skin Protection: Wear nitrile rubber or other impervious gloves to prevent skin contact. Wear impervious clothing if needed to prevent any contact with this product, such as gloves, apron, boots, or whole body suit.

Specific Respiratory Protection: None required with adequate ventilation. An approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain limited circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. Selection and use of respiratory equipment must be in accordance with appropriate regulations and good industrial hygiene practice.

Specific Thermal Hazards: None required.

Recommended Personal Protective Equipment

EYES/FACE	HANDS	RESPRIATORY	SKIN
			

Environmental Exposure Controls: Do not allow spills to enter sewers or waterways.

General Hygiene Considerations and Work Practices: Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or mist. Wash thoroughly after handling.

Protective Measures During Repair and Maintenance of Contaminated Equipment: Wear appropriate protective clothing and equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	**Clear liquid**	**Explosive limits:**	**Not available**
Odor:	**Acrylic odor.**	**Vapor pressure:**	**29 mmHg @ 68°F**
Odor threshold:	**0.21 ppm (methyl methacrylate)**	**Vapor density:**	**3.45**
pH:	**Not available**	**Relative density:**	**0.94**
Melting/freezing point:	**-54°F (-48°C)/Not available**	**Solubility:**	**1.5%**

Initial boiling point and range:	**Not available**	**Partition coefficient: n-octanol/water:**	**Not available**
Flash point:	**55°F (13°C) TOC**	**Auto-ignition temperature:**	**815°F (435°C)**
Evaporation rate:	**3.1 (Bac = 1)**	**Decomposition temperature:**	**Not available**
Flammability:	**LEL:2.1% UEL: 12.5%**	**Viscosity:**	**Not available**
Explosive Properties:	**Vapors are explosive above the LEL**	**Oxidizing Properties:**	**None**

10. STABILITY AND REACTIVITY

Reactivity:: May auto polymerize.
Chemical Stability: Unstable if heated.
Possibility of Hazardous Reactions: Polymerization can occur. Reaction with oxidizers may cause fire.
Conditions to Avoid: Conditions leading to polymerization are excessive heat, oxygen-free atmosphere inhibitor depletion (due to excessive aging), direct sunlight, and contamination with polymerization catalysts.
Incompatible materials: Avoid contact with oxidizing agents, reducing agents, acids, and bases.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, methyl methacrylate, and irritating smoke and fumes.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eyes: Liquid and vapors can cause moderate irritation (tears, blurred vision and redness).

Skin: May cause skin irritation with allergic skin reaction (skin sensitization).

Ingestion: Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

Inhalation:. May cause respiratory tract irritation with coughing, mucous production and shortness of breath. High concentration is irritating to the respiratory tract and may cause dizziness, headache and anesthetic effects.

Chronic Health Effects: Prolonged or repeated overexposure may cause skin irritation or sensitization in some individuals, as well as kidney, lung, liver, and heart damage.

Carcinogenicity: The results of a 2-year inhalation studies conducted for NTP showed no evidence of carcinogenicity of methyl methacrylate for male rats exposed at 500 or 1,000 ppm and female rats exposed at 250, 500 or 1,000 ppm. In another study, no increase was seen in the number or type of tumors in either rats or hamsters from a chronic inhalation study. No carcinogenic activity was also reported in a chronic oral study. However, acute oral exposure studies and structure-activity relationship comparisons with other acrylates suggest that the introduction of a methyl group to the acrylate moiety (e.g., EC to MMA) negates carcinogenic activity. None of the components of this product are listed as

carcinogens by OSHA, IARC, NTP, ACGIH or the EU Substances Directive.

Mutagenicity: Methyl Methacrylate: Negative in AMES test, positive and negative in in-vitro studies. Negative in vivo studies.

Medical Conditions Aggravated by Exposure: Individuals with pre-existing skin conditions may be at increased risk from exposure.

Acute Toxicity Data:
Methyl Methacrylate: Oral rat LD50 7800 mg/kg; Inhalation rat LC50 7093 ppm/4 hr.
Ethylene Glycol Methacrylate: Oral rat LD50: 3300 mg/kg; Oral mouse LD50: 2 g/kg

Reproductive Toxicity Data: In a study in rats, there were no developmental effects, although there were decreases in maternal body weight following inhalation of concentrations up to 8,315 mg/m^3. There was no reduction in fertility in a dominant lethal assay in mice exposed to this compound at concentrations up to 36,900 mg/m^3 and no adverse effects on reproductive organs in repeated dose studies conducted to date.

Specific Target Organ Toxicity (STOT):
Single Exposure: In an inhalation study with dogs, a 2000 ppm dose showed a drop in arterial blood pressure and GI motor activities. The lethal oral dose for methyl methacrylate is 6 to 9 g/kg in lab animals. Poisoned animals exhibit respiratory depression, and coma; also irritation of skin, eyes and respiratory tract.

Repeated Exposure: Methyl Methacrylate: Impairment of locomotor activity and learning and behavioral effects on the brain were observed in rats exposed orally to 500 mg/kg bw/day for 21 days.

12. ECOLOGICAL INFORMATION

Toxicity: Methyl Methacrylate: Fathead minnow LC50 96h: 130 mg/L Algae EC50 48h: 170 mg/L
Ethylene Glycol Dimethacrylate: No data available.

Persistence and Degradability: Methyl mathacrylate is readily biodegradable - 88% after 28 days.

Bio-accumulative Potential: The potential for bioaccumulate is expected to be low for methyl methacrylate.

Mobility in Soil: Methyl methacrylate is expected to have very high to high mobility in soil.

Other Adverse Effects: None known

Results of PBT/vPvB Assessment: Not required.

13. DISPOSAL CONSIDERATIONS

Regulations: Dispose in accordance with all national and local regulations.

Properties (Physical/Chemical) Affecting Disposal: This product will polymerize when exposed to sunlight. Empty containers retain product residues can be hazardous. Follow all MSDS precautions when handling empty containers.

Waste Treatment Recommendations: No discharge to wastewater anticipated.

14. TRANSPORT INFORMATION

UN Identification Number: UN1247
UN Proper Shipping Name: Methyl Methacrylate Monomer, Inhibited
Transport hazard class(es): 3
Packing Group: PG II
Special precautions for user: Take appropriate precautions to avoid release

15. REGULATORY INFORMATION

U.S. Federal Regulations

US OSHA Hazard Classification: Flammable Liquid, Irritant, Sensitizer , Target organ effects.

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): Releases above the RQ of 1,000 lbs (based on the RQ for methyl methacrylate of 1,000 lbs present at 100% max) must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Toxic Substances Control Act (TSCA): This product is a medical device and not subject to chemical notification

Clean Water Act (CWA): This material is not regulated under the Clean Water Act

Clean Air Act (CAA): This material is not regulated under the Clean Air Act

Superfund Amendments and Reauthorization Act (SARA) Title III Information:

SARA Section 311/312 (40 CFR 370) Hazard Categories:

Immediate Hazard:	**Yes**	**Pressure Hazard:**	**No**
Delayed Hazard:	**Yes**	**Reactivity Hazard:**	**Yes**
Fire Hazard:	**Yes**		

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):

Components	C.A.S. #	WT %
Methyl Methacrylate	80-62-6	80-95%

State Regulations

California: This product contains the following substances known to the state of California to cause cancer and/or reproductive toxicity: None.

Components	C.A.S. #	WT %
None.	Not applicable	Not applicable

International Regulations

Canadian Environmental Protection Act: This product is a medical device and not subject to chemical notification requirements.

Canadian Workplace Hazardous Materials Information System (WHMIS): Medical devices are not covered by WHMIS.

European Inventory of Existing Chemicals (EINECS): This product is a medical device and not subject to chemical notification requirements.

EU REACH: All components requiring registration have been pre-registered.

Australian Inventory of Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

China Inventory of Existing Chemicals and Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

Korean Existing Chemicals List: This product is a medical device and not subject to chemical notification requirements.

Philippine Inventory of Chemicals and Chemical Substances: This product is a medical device and not subject to chemical notification requirements.

16. OTHER INFORMATION

HMIS Hazard Rating:
Health – 2 Flammability– 3 Physical Hazard– 2

Full text of Classification abbreviations used in Section 2 and 3:

F Flammable
Xi Irritant
R11 Highly flammable.
R36/37 Irritating to eyes and respiratory tract.
R37/38 Irritating to respiratory system and skin
R43 May cause sensitization by skin contact.

Supersedes: September 21, 2007
Revision Summary: Change in format. Comprehensive review. Changes to all sections.

Data Sources: US NLM ChemID Plus and HSDB, Substance SDS for components, IUCLID Dataset EU Chemical Bureau, ESIS, Country websites for occupational exposure limits.