MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION

MANUFACTURER:	LANG DENTAL MFG. CO., INC. 175 MESSNER DRIVE WHEELING, IL 60090
TELEPHONE:	PRODUCT INFORMATION: (800) 222-LANG MEDICAL EMERGENCY: (800) 222-5264 7:00am-4:00pm c.t. or INFOTRAC 24HRS CHEMICAL RESPONSE SYSTEM (800) 535-5053
PRODUCT:	JET SEAL
PRODUCT NUMBERS:	4102C
HMIS:	H=2, F=3, R=2

SECTION II: COMPONENTS

INGREDIENT(S)	CAS NUMBER	%
Methyl Methacrylate	80-62-6	< 100

SECTION III: PHYSICAL DATA

EVAPORATION RATE: 3 (BuAc=1)	VAPOR DENSITY: 3.46 (Air=1)	WATER SOLUBILITY: 1.6 WT % @ 20 C
PERCENT VOLATILE: 72.0	BOIL POINT: 101 C (214 F) @ 760mm Hg	VAPOR PRESSURE: 28 mm Hg @ 20 C
SPECIFIC GRAVITY: 0.949 g ml @ 15.5 C	FORM: Liquid	COLOR: Colorless

SECTION IV: HAZARDOUS REACTIVITY

INSTABILITY: Unstable with heat.

INCOMPATIBILITY: Incompatible with oxidizing and reducing agents. Material is a strong solvent and can soften paints and rubber.

DECOMPOSITION: Decomposes with heat. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide and smoke.

POLYMERIZATION: Polymerization can occur. Conditions leading to polymerization are excessive heat and inadvertent addition of catalyst. Contamination of product may also cause hazardous polymerization.

SECTION V: FIRE & EXPLOSION DATA

FLASH POINT (METHOD):	APPROX. FLAMMABLE LIMITS:	AUTOIGNITION TEMPERATURE:
11.5 C (52.7 F) (TCC)	LEL 2.1%, UEL 12.5%	421 C (789.8 F)

Fine mists are explosive below the flash point.
Flammable liquid. Vapor forms explosive mixture with air.

FIRE & EXPLOSION DATA (Continued)

FIRE & EXPLOSION HAZARDS:
Sealed containers exposed to elevated temperatures may rupture explosively due to polymerization. Vapors are heavier than air and may travel to ignition sources and flash back.

EXTINGUISHING MEDIA:
Foam, carbon dioxide, dry chemical and water spray (by trained personnel).

SPECIAL FIRE FIGHTING PROCEDURES:
Keep personnel removed and upwind of fire. Wear full protective equipment, including self-contained breathing apparatus. Cool container with water spray. Fight fires from a distance. Heat may rupture containers.

Vapors are uninhibited and may form polymers in vents or flame arresters, resulting in stoppage of vents.

SECTION VI: HEALTH HAZARD DATA

Methyl Methacrylate is a skin, nose and throat irritant and can cause allergic skin rashes. Skin permeation may occur.

It is a severe eye irritant and can cause tearing, blurring of vision and possible corneal damage.

Inhalation can cause headache, nausea, weakness and lung irritation with cough and shortness of breath. Temporary sensory nervous system effects such as coldness or numbness of the extremities can occur, as well as abnormal kidney function tests and temporary elevation of blood pressure.

Developmental toxicity occurred in animal tests but usually at dose levels so high that they caused maternal toxicity also.
It did not produce cancer in animal tests.

ANIMAL DATA

Inhalation 4 hour LC50: 7093 ppm in rats
Skin absorption LD50: > 35,500 mg/kg in rabbits
Oral LD50: 7900 mg/kg in rats

The compound is a skin irritant, is a moderate eye irritant and is a skin sensitizer in animals.

Inhalation: Toxicity described in animals exposed to levels primarily in the range of 8-100 times the TLV by inhalation include upper respiratory and gastrointestinal irritation, lung damage, nervous system effects, and blood in urine.

Ingestion: Toxicity described in animals exposed by ingestion near the LD50 include blood in the urine and liver changes.

SUBCHRONIC TOXICITY
Inhalation: Toxicity described in animals exposed to levels in the range of 5-100 times the TLV by inhalation include lung damage, pulmonary irritation, liver changes, eye irritation, nasal tissue changes, incoordination and upper respiratory irritation.

Ingestion: Toxicity described in animals exposed by ingestion include liver and kidney effects with altered function in both organs, peeling of the skin and impaired locomotive activity and learning.

Skin contact: Dermal exposure resulted in peeling of the skin and localized neuromuscular changes indicated by abnormal muscle responses to nerve stimulation.

CHRONIC TOXICITY STUDIES
Inhalation: Toxicity described in animals exposed by inhalation include inflammation of the nasal cavity and changes in nasal sensory cells, and slight decrease in body weight.

Ingestion: Toxicity described in animals exposed by ingestion include decreased body weight, and increased relative kidney weight at high dose levels.

CARCINOGENIC, MUTAGENIC, AND DEVELOPMENTAL HAZARDS
Animal testing indicates that this compound does not have carcinogenic effects.

HEALTH HAZARD DATA (Continued)

Developmental toxicity has been observed in tests with animals, but in most cases it was accompanied by maternal toxicity. In one instance reduced fetal weights were observed in the absence of maternal toxicity.

The compound does produce genetic damage in mammalian cell cultures. It does not produce heritable genetic damage in animals.

Standard tests in animals for reproductive effects have not been performed. Limited information indicates it does not have an affect on male reproduction.

HUMAN HEALTH EFFECTS
Skin contact may cause skin irritation with rash; or allergic skin rashes.

Eye contact may cause severe eye irritation with tearing, or blurring of vision, or possible corneal damage.

Inhalation may cause irritation of the upper respiratory passages; nonspecific discomfort, such as nausea, headache, or weakness; temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath; temporary sensory nervous system effects such as coldness or numbness of extremities; abnormal kidney function as detected by laboratory tests; or temporary elevation of blood pressure.

Evidence from animal tests suggests that skin permeation may occur. The compound may cause skin sensitization in susceptible humans. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

CARCINOGENICITY
None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS
Methyl Methacrylate - Inhibited

TLV (ACGIH): 100 ppm, 410 mg/m3 - 8 Hr TWA
PEL (OSHA): 100 ppm, 410 mg/m3 - 8 Hr TWA

SAFETY PRECAUTIONS
Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

SECTION VII: FIRST AID

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN: In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

EYE: In case of contact, immediately flush with plenty of water for at least 15 minutes. Call a physician.

INGESTION: If swallowed, do not induce vomiting. Immediately give two glasses of water. 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.

SECTION VIII: PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES & PRECAUTIONS: Keep away from heat, sparks and flames. Keep container in a cool place. Keep container tightly closed. Do NOT expose to direct sunlight.
Close container after each use.

Observe label precautions. Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact due to splashing or spraying material.

RESPIRATORS: Use a positive pressure air-supplied respirator if concentrations may exceed exposure limits. Air-purifying respirators are inadequate for this material.

PROTECTIVE CLOTHING: To prevent any contact with this product, wear impervious clothing, such as gloves, apron, boots, or whole bodysuit made from Butyl Rubber. Neoprene has been used successfully. It does not appear to have as long a breakthrough time, based on laboratory tests, as does Butyl Rubber.

SECTION IX: DISPOSAL INFORMATION

AQUATIC TOXICITY: Low toxicity to fish. LC50 (fish). Typically > 100 mg/L
LC50 (fathead minnow) (96 hr.) (static) 130 mg/L
Harmful to aquatic invertebrates. EC50 (Daphnia Magna) (48 hr.) 69mg/L
Low toxicity to algae. EC50 (Selenastrum Capricornutum) (96 hr.) 170 mg/L

Effect on Effluent Treatment: Product is substantially removed in biological treatment processes.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Evacuate area. Eliminate sources of ignition. Use self-contained breathing apparatus and protective clothing. Dike and absorb with inert material. Transfer to proper containers for disposal, using non-sparking tools. Keep spills and cleaning runoffs out of sewers and open bodies of water. Spill on porous surfaces can contaminate the groundwater.

WASTE DISPOSAL METHOD: Incinerate in a facility which complies with federal, state and local requirements. Do not incinerate in closed containers. Do not allow material to contaminate ground water systems.

SECTION X: SHIPPING INFORMATION

DOT
PROPER SHIPPING NAME: Methyl Methacrylate Monomer, Inhibited
UN1247, Flammable Liquid Class 3, Packing Group II

SECTION XI: STORAGE CONDITIONS

Store in well ventilated area. Store in cool place. Keep container tightly closed. Store in accordance with National Fire Protection Association regulations. Keep away from direct sunlight.

SECTION XII: TITLE III HAZARD CLASSIFICATION

Acute:	Yes
Chronic:	No
Fire;	Yes
Reactivity:	Yes
Pressure:	No

SECTION XIII: EC REGULATIONS

EINECS: all chemical listed

EEC Classification: HIGHLY FLAMMABLE AND IRRITANT

Symbol: Indication of Danger

 F Highly Flammable

 Xi Irritant

Risk Phrases:
R11 Highly flammable
R36/37/38. Irritating to the eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.

Safety Phrases:
S9 Keep container in well ventilated place.
S16 Keep away from sources of ignition. No smoking.
S33 Take precautionary measures against static discharges.
S29 Do not empty into drains.

SECTION XIV: CANADIAN REGULATIONS

DSL: included

WHMIS Classification: B2 Flammable Liquid
D2B Toxic

SECTION XV: ADDITIONAL INFORMATION

The above information has been gathered from reliable sources and is believed to be correct. However, the information is provided without any warranty, either expressed or implied. Lang Dental Mfg. Co., Inc. shall not be held liable for any damage resulting from the handling of or contact with the above product.

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