

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: LANG DENTAL MFG. CO., INC.
 175 MESSNER DRIVE
 WHEELING, IL 60090
 USA

TELEPHONE: PRODUCT INFORMATION: (800) 222-5264 or (847) 215-6622

EMERGENCY CONTACT: INFOTRAC 24 HOURS CHEMICAL RESPONSE SYSTEM
 (800) 535-5053 or (352) 323-3500

PRODUCT: FLEXACRYL HARD LIQUID / FLEXACRYL SOFT LIQUID

PRODUCT NUMBERS: 0903, 0904, 0906, 0907, 0908, 0923, 0934 / 1103, 1104, 1106, 1107, 1108, 1123, 1134

2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NATURE:
 N-Butyl Methacrylate: CAS Number – 97-88-1 EINECS – 202-615-1

INGREDIENT(S):	CAS NUMBER:	%:	HAZARD SYMBOL:	R PHRASES:
1. FLEXACRYL HARD				
N-Butyl Methacrylate	97-88-1	< 94	Xi	10;36/37/38;43
Dimethyl-P-Toluidine	99-97-8	< 2	T	23/24/25;33;52/53
2. FLEXACRYL SOFT				
N-Butyl Methacrylate	97-88-1	< 50	Xi	10;36/37/38;43
Dibutyl Phthalate	84-74-2	< 50	Xn, N	62;63;50/53
Dimethyl-P-Toluidine	99-97-8	< 1	T	23/24/25;33;52/53

3. HAZARDS IDENTIFICATION

Combustible. Hazardous polymerization may occur.
 Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. High atmospheric concentrations may lead to internal irritation, nausea, vomiting, diarrhea and may lead to drowsiness and unconsciousness. Repeated and or prolonged contact may cause dermatitis. When ingested causes irritation, a burning sensation of the mouth, throat and respiratory tract and abdominal pain.

4. FIRST AID MEASURES

INHALATION: Remove patient from exposure, keep warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, and call a physician.

SKIN: Wash skin immediately with soap and plenty of water. If symptoms (irritation or blistering) occur obtain medical attention. Wash contaminated clothing before reuse.

EYE: Irrigate with eyewash solution or clear water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.

INGESTION: Do not induce vomiting. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain medical attention. Never give anything by mouth to an unconscious person. Call a physician.

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5. FIRE FIGHTING MEASURES

FLASH POINT:
49 °C

APPROX. FLAMMABLE LIMITS:
LEL 2.0%, UEL 8.0%

AUTOIGNITION:
296 °C

Flammable. Vapors or gases may travel considerable distance to ignition source and flash back.

FIRE AND EXPLOSION HAZARDS: Fine mist or sprays may be flammable at temperatures below the flash point. May polymerize on heating. Sealed containers may rupture explosively if hot.

EXTINGUISHING MEDIA: Foam, dry powder or CO₂. Keep fire exposed containers cool by spraying with water.

FIRE FIGHTING PROTECTIVE EQUIPMENT: A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Cool tank/container with water spray. Fight fire from a distance, heat may rupture containers.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): NOTE: Review FIRE FIGHTING MEASURES AND HANDLING (Personnel) sections before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Evacuate personnel, thoroughly ventilate area, and use self-contained breathing apparatus.

Initial containment: Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas.

Spill clean up: Soak up with sand, oil dry or other absorbent, non-combustible material.

Cleaned-up material is a RCRA Hazardous Waste.

7. HANDLING AND STORAGE

Handling (Personnel): Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling.

Handling (Physical Aspects): Close container after each use. Ground container when pouring. Keep away from heat, sparks and flames.

Storage: Vapors are uninhibited and may form polymers in vents or flame arresters, resulting in blockage of vents. Keep container in a cool place. Do not expose to direct sunlight. Store in a well ventilated place. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations.

Maintain air space inside storage containers. Inhibitor requires air (oxygen) contact to function.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering controls: Keep container tightly closed. Observe label precautions. Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits.

The following information is given as general guidance.

EYE: Safety glasses or chemical splash goggles.

RESPIRATORS: A NIOSH/MSHA 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 is not known, or any other circumstances where air purifying respirators may not provide adequate protections.

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PROTECTIVE CLOTHING: Wear impervious clothing to prevent any contact with this product, such as gloves, apron, boots, or whole body suit. Nitrile rubber is better than PVC.

OCCUPATIONAL EXPOSURE LIMITS:

HAZARDOUS INGREDIENT (S)	PEL (OSHA):	TLV (ACGIH):	COMPANY RECOMMENDATION:
n-Butyl methacrylate	N/E	N/E	50 ppm TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

For n, Butyl Methacrylate:

VAPOR DENSITY:

4.9 (Air=1)

WATER SOLUBILITY:

0.36 % at 20 °C

BOILING POINT:

163-164 °C

PERCENT VOLATILE (W/W%):

100

VAPOR PRESSURE (2 mm Hg):

20 °C (68 °F)

SPECIFIC GRAVITY:

0.901 at 15.5 °C

Color:

Colorless to pale yellow

Odor:

Characteristic

FORM:

Liquid

10. STABILITY AND REACTIVITY

STABILITY: Stable at normal temperatures and storage conditions.

CONDITIONS TO AVOID: Heat and ignition sources; contamination.

INCOMPATIBILITY (MATERIALS TO AVOID): Incompatible with reducing and oxidizing agents. Material has strong solvent properties and can soften paint and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposes with heat. Hazardous gases/vapors produced are CO, CO₂, smoke.

HAZARDOUS POLYMERIZATION: Can occur.

CONDITIONS TO AVOID FOR HAZARDOUS POLYMERIZATION: Excessive heat, storage in absence of inhibitor; inadvertent addition of catalyst.

11. TOXICOLOGICAL INFORMATION

INHALATION: Irritating to respiratory system. The vapor has anesthetic properties and when inhaled at concentrations above the occupational exposure limit it may cause headache, fatigue, dizziness, incoordination and loss of consciousness.

SKIN: May cause sensitization by skin contact. Irritating to skin. Repeated and/or prolonged contact may cause dermatitis.

EYE: Irritating to eyes. High vapor concentration will cause irritation.

INGESTION: Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

LONG TERM EXPOSURE: This material has been in use for many years with no evidence of adverse effects. There is no evidence of mutagenic potential. Inadequate information available to assess carcinogenic hazard. Some evidence of potential for developmental toxicity but inadequate information is available to assess the teratogenic hazard. By analogy with other methacrylates it is unlikely that n-butyl methacrylate represents a teratogenic hazard to man.

None of these effects are likely to occur in humans, provided exposure is maintained at or below the occupational exposure limit.

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

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TOXICITY DATA: Acute Oral Rat LD50: 22,600 mg/kg
 Acute Dermal Rabbit LD50: 11,300 mg/kg
 Acute Inhalation Rat LC50: 4,910 ppm

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution: High tonnage material produced in wholly contained systems. Liquid with moderate volatility. The product is sparingly soluble in water. The product has moderate potential for bioaccumulation. The product is predicted to have moderate mobility in soil.

Persistence and Degradation: Readily biodegradable. 88%, 28 days. Biological Oxygen Demand (BOD 28 Day/DOC) 32.8%

Toxicity: Harmful to aquatic organisms.

LC50 (fathead minnow) (96 hr) (flow through) 11 mg/L.

NOEC (oryzais latipes) (14 day) (flow through) 0.4 mb/L.

EC50 (Daphnia magna) (48 hr) 25.4 mg/L.

EC50 (selenastrum capricornutum) (96 hr.) biomass 57 mg/L.

A study in daphnia has shown that repeated doses produce no adverse reproductive effects up to the concentration of 2.6 mg/L.

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

13. DISPOSAL CONSIDERATIONS

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface or sanitary sewer system. 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.

14. TRANSPORT INFORMATION

1. FLEXACRYL HARD –

DOT / UN SHIPPING NAME: n-Butyl methacrylate, stabilized
 NA /UN NUMBER: UN2227
 DOT/UN CLASS: 3
 PACKING GROUP: III
 LABEL: Flammable liquid
 IMDG CLASS: 3

Domestic containers of less than 450 L capacity are not regulated by DOT. International shipments must be labeled as flammable and comply with the UN2227 designation.

2. FLEXACRYL SOFT –

DOT / UN SHIPPING NAME: Flammable liquid, n.o.s. (n-Butyl methacrylate, stabilized / Dibutyl phthalate solution)
 NA /UN NUMBER: UN1993
 DOT/UN CLASS: 3
 PACKING GROUP: III
 LABEL FOR AIR: Flammable liquid
 IMDG CLASS: 3
 LABEL FOR OCEAN: Flammable liquid /Marine pollutant

Domestic containers of less than 450 L capacity are not regulated by DOT. International shipments must be labeled as flammable and comply with the UN2227 designation.

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15. REGULATORY INFORMATION

EC REGULATIONS –

EINECS: N-Butyl Methacrylate, 202-615-1

EEC Classification: For N-Butyl Methacrylate Flammable and Irritant
For Dibutyl Phthalate Harmful and Dangerous for the environment

Symbol: Indication of Danger



1. FLEXACRYL HARD: Xn Harmful

Risk Phrases:

R10 Flammable
R20/21/22 Harmful by inhalation,
in contact with skin and if swallowed.

R33 Danger of cumulative effects.

R36/37/38 Irritating to the eyes, respiratory system and skin. S60 This material and its container must be disposed

R43 May cause sensitization by skin contact.

Safety Phrases:

S9 Keep container in well ventilated place.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 Wear suitable protective clothing and gloves.

S60 This material and its container must be disposed of as hazardous waste.

Symbol: Indication of Danger



2. FLEXACRYL SOFT: Xi Irritant

Risk Phrases:

R10 Flammable

R36/37/38 Irritating to the eyes, respiratory system and skin. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R62 Possible risk of impaired fertility

R63 Possible risk of harm to the unborn child

Safety Phrases:

S24 Avoid contact with skin.

S37 Wear suitable gloves.

S57 Use appropriate container to avoid environmental contamination.

S61 Avoid release to the environment.

Refer to special instructions/Safety data sheets.

CANADIAN REGULATIONS –

DSL: Included

WHMIS Classification: B3 Combustible Liquid
D2B Toxic. Skin or eye irritant.

16. OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:

HEALTH = 2

FLAMMABILITY = 2

REACTIVITY = 2

This data sheet was prepared in accordance with Directive 91/155/EEC.

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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