

MATERIAL SAFETY DATA SHEET

This form is regarded to be in compliance with 29 CFR Part 1910.1200

1. IDENTIFICATION

PRODUCT NAME: ODORLESS LIQUID.

Manufacturer's Name: **CALI CHEM, Inc.,**
Address : **14271 Corporate Dr Suite # B**
City, State, Zip code **Garden Grove, CA 92843**
Business Telephone : **(714) 265-3740**
Emergency Telephone #: **(800) 535 - 5053**

2. COMPOSITION / INFORMATION ON INGREDIENTS

ITEM	CHEMICAL NAME	CAS NUMBER	WT/WT %
01	2-Hydroxyethyl Methacrylate	868-77-9	60.0-100.0
02	Triethylene Glycol Dimethacrylate	109-16-0	10.0-40.0

ITEM	ACGIH		OSHA		Company Recommendation	SKIN
	TLV-TWA	TLV-STEL	PEL TWA	PEL CEILING		
01	NE	NE	NE	NE	NE	NE
02	NE	NE	NE	NE	NE	NE

*Note this material contains an inhibitor (HQ, MEHQ, BHT, etc) at <1%. The type and amount meet product specifications. Contact manufacturer for exact concentration and details on inhibitor level maintenance.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING:

Physical Hazards:	Unstable/Reactive upon depletion of inhibitor.
Acute Hazards:	
Eyes:	Liquid or high vapor concentration may cause irritation and possibly permanent injury. Irritation may include excessive tearing, blinking and redness.
Ingestion:	May be toxic. Swallowing significant amounts could cause irritation of mouth, throat and digestive tract, central nervous system depression.
Inhalation:	Liquid or high vapor concentration may cause irritation of the nose, throat and respiratory tract. Irritation may include coughing, mucous production and shortness of breath.
Skin:	Liquid or high vapor concentration may cause irritation, including redness and swelling. May also cause sensitization and allergic reaction in some individuals resulting in contact dermatitis, severe irritation, dryness and cracking. May cause delayed blistering. Expected to be a slight absorption hazard.
Chronic Hazards:	Prolonged exposure may lead to headaches, nausea, drowsiness and unconsciousness.

CARCINOGENICI

Hydroxyethyl Methacrylate contains trace amounts of Ethylene Oxide, substances known to the state of California to cause cancer and/or reproductive toxicity. Triethylene Glycol Dimethacrylate may contain trace quantities of substances

known to the state of California to cause cancer and/or reproductive toxicity. All carcinogen studies for all types of cancers were negative. None of the other components of this material are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.

PRIMARY ROUTES OF ENTRY: Inhalation, Skin or Eyes.

4. FIRST AID MEASURES

First Aid for Eye	Flush with plenty of water for 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. Do NOT allow victim to rub or keep eyes closed.
First Aid for Skin	Remove contaminated clothing and wash contact area with soap and water for 15 minutes. Get medical aid if systems persist. Wash clothing before reuse.
First Aid for Inhalation	In case of exposure to a high concentration of vapor or mist, remove person to fresh air. If breathing has stopped, administer artificial respiration and seek medical attention.
First Aid for Ingestion	Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2 to 4 cupfuls of milk or water.

5. FIRE FIGHTING MEASURES

FLASH POINT:	96 °C, 205 °F (Closed Cup) 109 °C, 228 °F (Open Cup)
FLAMMABLE LIMIT, AIR VOL% LOWER:	NA
UPPER:	NA
AUTOIGNITION TEMPERATURE:	NE
EXTINGUISHER METHOD:	Chemical foam, carbon dioxide, dry chemical.
FIRE AND EXPLOSION HAZARDS:	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. Water may not be effective in actually extinguishing a fire involving this product.
SPECIAL FIRE FIGHTING PROCEDURES:	When involved in a fire, this product may ignite and decompose to produce carbon oxides. Do not enter fire area without proper protection. Fight fire from a safe location. Heat/impurities may cause pressure to build and/or rupture closed containers, spreading fire, increasing risk of burns/injuries. Structural firefighters must wear SCBAs and full protective equipment.
SENSITIVE TO MECHANICAL IMPACT:	No.
SENSITIVE TO STATIC DISCHARGE:	No.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES

Before cleaning any spill or leak, individuals involved must wear appropriate Personal Protective Equipment (e.g., goggles, gloves). Deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g. sand or earth). Use ONLY non-sparking tools for recovery and cleanup. Maximize ventilation (open doors and windows) 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. Remove any contaminated clothing and wash thoroughly before reuse. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

7. HANDLING & STORAGE

PRECAUTIONS FOR HANDLING: Use local explosion-proof ventilation with a minimum capture velocity of 100 ft/min (30 m/min) at point of material release. Refer to Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Hygienist. Observe precautions found on label.

PRECAUTIONS FOR STORAGE: Store containers in a cool, dry location, away from direct sunlight, heat, sparks, flame, other light sources, or sources of intense heat. Keep container closed after each use. Ground and bond all containers when transferring. **Check inhibitor levels periodically**, add to the bulk material if needed. Maintain at a minimum, the original 2-inch headspace in the product container. Do not blanket or mix with oxygen-free gas as it renders the inhibitor ineffective.

INDUSTRIAL HYGIENE PRACTICES: Avoid contact with skin, eyes, clothing, and prolonged contact with the product. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION: Refer to Section 7 regarding the ventilation requirements for working with this product. Use explosion-proof local exhaust at processing equipment, including buffers, sanders, grinders and polishers. High temperature processing equipment should be well ventilated.

RESPIRATORY PROTECTION: A respirator should be worn whenever workplace conditions warrant a respirators use. None required if airborne concentrations are maintained below the exposure limit listed in Section 2. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR §1910.134 or other appropriate governing standard.

EYE PROTECTION: Depending on the use of this product, splash or safety glasses may be worn. If necessary, refer to U.S. OSHA 29 CFR §1910.133, or other appropriate governing standard. Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.

PROTECTIVE GLOVES: If anticipated that prolonged & repeated skin contact will occur during use of this product, wear chemical resistant gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR §1910.138, or other appropriate governing standards.

OTHER PROTECTIVE EQUIPMENT: No special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate governing standards. An eyewash station and a safety shower are recommended.

9. PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE	Clear, water white liquid.
ODOR:	Mild ester-like odor.
pH:	ND
ODOR THRESHOLD:	ND
BOILING POINT:	NE
FREEZING POINT:	NE
VISCOSITY:	NE
SPECIFIC GRAVITY (H₂O=1):	NE
VAPOR PRESSURE:	NE
PERCENT VOLATILE W/W%:	100

VAPOR DENSITY (AIR=1): NE
EVAPORATION RATE (BuAc =1): NE
SOLUBILITY IN WATER: Miscible with water.
COEFFICIENT OF WATER/OIL DISTRIBUTION: NE

10. STABILITY & REACTIVITY

CONDITIONS TO AVOID: Temperatures above 21°C, 70°F, localized heat sources (example drum or band heaters) oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers. Material has strong solvent properties and can soften paint and rubber.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Carbon when burned.

HAZARDOUS POLYMERIZATION: MAY OCCUR: X WILL NOT OCCUR:

STABILITY: Unstable/Reactive upon depletion of inhibitor.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

This product has NOT been tested on animals to obtain toxicology data. There is toxicology data for the components of the product, which is found in scientific literature. Some of this data is presented below.

For 2-Hydroxyethyl Methacrylate:

Oral Mouse	LD ₅₀ :	3275 mg/kg.
Oral Rat	LD ₅₀ :	5050 mg/kg.
Oral Guinea Pig	LD ₅₀ :	4680mg/kg.
Intraperitoneal mouse	LD ₅₀ :	497 mg/kg.
Intraperitoneal Rat	LD ₅₀ :	1250 mg/kg.

For Triethylene Glycol Dimethacrylate:

Oral Mouse	LD ₅₀ :	10750 mg/kg.
Oral Rat	LD ₅₀ :	10837 mg/kg.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY:

There is no specific data available for this product; however, very large releases of this product may be harmful or fatal to overexposed aquatic life.

ENVIRONMENTAL FATE:

There is no specific data available for this product.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Contaminated product/soil/water may be RCRA/OSHA hazardous waste due to potential for internal heat generation (40 CFR 261 and 29 CFR 1910). After addition of excess inhibitor, dispose waste material in accordance with Federal, State, and Local regulations.

DISPOSAL OF EMPTY CONTAINERS: 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.

14. TRANSPORT INFORMATION

DOT/UN SHIPPING NAME: PLASTICS MATERIAL, NOI
DOT/UN CLASS:
NA/UN NUMBER:
PACKING GROUP:
LABEL:
IMDG CLASS:
IMDG PG:
CERCLA RQ:

15. REGULATORY INFORMATION

SARA Reporting Requirements: NA
SARA Threshold Planning Quantity: There are no specific Threshold Planning Quantities for the components of this product.
TSCA Inventory Status: The components of this product are listed on the TSCA Inventory.
CERCLA Reportable Quantity (RQ): NA
Other Federal Requirements: This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR.
Other Canadian Regulations: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List.
State Regulatory Information: This product may contain components that are covered under specific state criteria.

RISK STATEMENTS: R21/22 - Harmful in contact with skin and if swallowed.
R36/38 – Irritating to eyes and skin.
R43 – May cause sensitization by skin contact

SAFETY STATEMENTS: S3 – Keep in a cool place.
S7/8 – Keep container tightly closed and dry.
S9 – Keep container in a well-ventilated place.
S15/16 – Keep away from heat, sources of ignition – No Smoking.
S20 – When using do not eat or drink.
S23 – Do not breathe spray.
S24/25 – Avoid contact with skin and eyes.
S 29 – Do not empty into drains.
S37/39 – Wear suitable gloves and eye/face protection.

16. OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 2
PERSONAL PROTECTIVE EQUIPMENT: Gloves and Safety Glasses or Chemical Splash Goggles.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION RATING:

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 2

ABBREVIATIONS:

NA Not Applicable
NE Not Established

ND Not Determined

ppm parts per million
mg Milligram
gm Gram
kg Kilogram
mm Millimeter
Pa Pascals

G Gallon
L Liter
mol Mole
 μ Micro
p Pico
c cento

LC Lethal Concentration
TC Toxic Concentration
BOD Biological Oxygen Demand
Lo Lowest
TLm Threshold Limit
DOC Dissolved Organic Carbon

LD Lethal Dose
TD Toxic Dose
COD Chemical Oxygen Demand
ThOD Theoretical Oxygen Demand
IC Inhibitory Concentration

H Hours
D Days
W Weeks

M Months
Y Years

ABBREVIATIONS:

ACGIH
Hygienist

American Conference of Governmental Industrial

CPR Controlled Product's Regulation
DSL Canadian Domestic Substances List
NDSL Canadian Non-domestic Substance List
IARC International Agency for Research for Cancer

NOEL No Observed Effect Level

NOAEL No Observed Adverse Effect Level

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

TLV Threshold Limit Value