Material Safety Data Sheet SLEDGEHAMMER®

SELF CURE LIQUID

Section I - Product and Company Identification

Product Name: SLEDGEHAMMER SELF CURE DENTAL ACRYLIC MONOMER
Chemical Name: NA

Family: Monomer

Manufacturer: KEYSTONE RESEARCH & PHARMACEUTICALS
616 Hollywood Avenue
Cherry Hill, NJ 08002

Product Use: Dental Monomer
Formula: Proprietary Formulation

Emergency Phone Numbers: (800) 535 -5053
Information Contacts: (856) 663 - 4700

Section II - Hazardous Ingredients

Chemical Identity	CAS Numbers	Percent (by wt)	Exposure Limits OSHA TWA/STEL	ACGIH TWA/STEL	Ciba Specialty Chemicals	Carcinogen IARC/NTP/OSHA
Methyl Methacrylate	80 - 62 - 6		100 ppm	100 ppm		None
Ethylene Glycol Dimethacrylate	97 - 90 - 5		N/E	N/E		None
Inhibitor (MEHQ)	150 - 76 - 5		5 mg/m3	5 mg/m3		None

N/E - None Established
N/R - Not Reviewed
N/DA - No Data Available
N/A - Not Applicable

Section III - Hazards Identification

EMERGENCY OVERVIEW

- May cause allergic skin reaction and eye irritation.
- Flammable liquid and vapor.
- Hazardous polymerization may occur.
- May cause respiratory irritation.

Potential Health Effects, Signs and Symptoms of Exposure:

Primary Route of Entry	Inhalation, eyes & skin.
Eye	Vapor concentration may cause irritation of eyes. Liquid contact with eyes can cause irritation and possible corneal damage .
Skin	Liquid concentration may cause moderate skin irritation. Repeated or prolonged contact may cause allergic skin rashes, itching and swelling
Ingestion	Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.
Inhalation	High vapor concentrations may irritate the respiratory system. Prolonged exposure can lead to headaches, nausea, drowsiness and unconsciousness.
Sub-Chronic Effects	Prolonged and/or repeated exposure may lead to kidney, lung, liver and heart damage. Unlikely to present a cancer hazard to man.

NOTE: Refer to Section 11, Toxicological Information for Details

Section IV - First Aid Measures

First Aid for Eye	Flush with water for 15 minutes, including under eyelids. Get medical help if discomfort persists.
First Aid for Skin	Wash thoroughly with soap and water. Remove contaminated clothing. Get medical help if discomfort persists.
First Aid for Inhalation	Remove to fresh air. If having breathing difficulty, give oxygen. If breathing has stopped, give artificial respiration. Get medical help if discomfort persists.
First Aid for Ingestion	If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention if symptoms persists.

Section V - Fire Fighting Measures

Flash Point (°F/°C)	Flammable Limit (vol%)	Auto-ignition Temperature (vol%)
TAG Closed: 68 F	LEL : 2% ; UEL : 12.5%	421 deg C

Method:

Extinguishing Media: Foam,carbon dioxide,dry chemical or carbon tetrachloride.

Fire Fighting Instructions: Wear self-contained breathing apparatus and full protective gear.Water may be ineffective unless used as a fine spray or fog. Use water spray to cool the exposed containers of methyl methacrylate.

Unusual Hazards: Vapors may travel to source ignition or excessive temperatures. Heat can induce polymerization with rapid release of energy.Closed containers may rupture explosively. Spontaneous polymerization may occur on prolonged aging. Explosive mixtures may occur at temperatures at or above the flashpoint.

Section VI - Accidental Release Measures

Spill or Release Procedures - Evacuate area and eliminate all possible sources of ignition. Use self contained breathing apparatus and protective clothing. Dike and absorb with inert materials (sand, soda, ash, vermiculite, etc) and then transfer to proper containers for disposal, using non-sparking tools. Keep spills out of sewers and open bodies of water. Remove saturated clothing and wash affected skin areas with soap and water.

Section VII - Handling and Storage

Handling Keep away from heat, sparks, flames and other sources of ignition. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use with adequate ventilation. Ground all metal containers when transferring and use explosion-proof equipment. Follow all MSDS/label precautions even after the container is emptied because it may retain product residues. Wash thoroughly after handling.

Storage Store in a cool dry place, at ambient temperatures out of direct sunlight. Keep containers closed and away from heat.

Explosion Hazard Keep away from sparks and open flame. Closed containers may rupture explosively. Spontaneous polymerization may occur on prolonged aging.

Section VIII - Exposure Controls / Personal Protective Equipment

Engineering Controls Use process enclosures, local exhaust ventilation. or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation with a minimum capture velocity of 100 ft/min at the point of monomer release. Refer to "Industrial Ventilation: A Manual of Recommended Practice " published by the American Conference of Governmental Industrial Hygiene.

Personal Protective Equipment

General To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR1910.132) be conducted before using this product. Provide eye wash stations and safety showers. 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.

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.

Skin Protection Use impermeable gloves to minimize skin contact.

Respiratory Protection Use self- contained breathing apparatus when needed. 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.

Section IX - Physical and Chemical Properties

Appearance	Odor & Odor Threshold	pH	Specific Gravity	Viscosity	% Volatile
Clear, colorless liquid	Characteristic strong, acrid odor	N/A	(H2O=1) : 0.94	N/A	W/W % : 99+

Boiling / Freezing Point	Decomposition Temperature	Octanol/Water Partitioning Coefficient	Vapor Pressure: (mm Hg)	Vapor Density (Air=1)	Evaporation Rate (Bu Ac=1)	Ignition	Solubility In Water (20°C)
		Log Po/w					
214°F	N/A	N/A	29 @ 25°C	3.45	1.5	N/A	1% to 100%

Section X - Stability and Reactivity

Stability:
Stable under normal storage conditions.

Hazardous Decomposition Products:
Acid fumes, CO and carbon dioxide

Conditions to Avoid:
Elevated temperatures, ignition sources, aging and contamination.

Incompatibility (Materials to Avoid):
Reducing/ oxidizing agents and UV light

Hazardous Polymerization:
May occur

Section XI - Toxicological Information

Acute Oral Toxicity	Acute Dermal Toxicity	Acute Inhalation Toxicity	Irritation - skin	Irritation - Eye
Oral(Rat) LD50: 7872 mg/kg	Dermal (Rabbit) LD50: 9400mg/kg	Inhalation (Rat) LC50 3750ppm	Skin irritant	Moderate eye irritant

Sensitization	Mutagenicity	Sub-chronic Toxicity
Skin sensitizer in animals	N/DA	N/DA

Section XII - Ecological Information

Ecotoxicological Information

Acute Toxicity to Fish	Acute Toxicity to Invertebrates	Acute Toxicity to Algae	Bioconcentration	Toxicity to Sewage Bacteria
96 hour LC50: fathead minnows: 150 ppm bluegill sunfish; 232 ppm	N/DA	N/DA	N/DA	N/DA

Chemical Fate Information

Biodegradability: Partially biodegradable in water

Chemical Oxygen Demand: (BOD 5 day) : 0.14g/g – 0.99g/g ;
Theoretical Oxygen Demand : 1.92g/g

Section XIII - Disposable Concentrations

After the addition of excess inhibitor, incinerate the liquid and diking materials in accordance with federal, state and local regulations. Do not incinerate in closed containers. Biodegradation is also possible. Empty containers must be handled with care due to product residue. DO NOT HEAT OR CUT THE EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

Section XIV - Transport Information

- DOT/UN Shipping Name: Flammable Liquid, n.o.s., Class 3, UN 1993
- RQ (Lbs): 1000

Section XV - Regulatory Information

US Federal Regulations

Clean Air Act: HAP	This product contains hazardous air pollutants (HAP), as defined by the USA Clean Air Act. Methyl Methacrylate CAS NO : 80626
Clean Air Act: ODS	This product neither contains, nor was manufactured with a Class I or Class II ozone depleting substance (ODS).

Section XV - Regulatory Information Continued

Clean Water Act: Priority Pollutant	This product contains no chemicals listed under the USA Clean Water Act Priority Pollutant List.
FDA: Food Packaging Status	This product has not been cleared by the FDA for use in food packaging and / or other applications as an indirect food additive.
Occupational Safety and Health Act	This product is considered to be a hazardous chemical under the OSHA Hazard Communication Standard. Its hazard are: Immediate (acute) health hazard Fire hazard Reactive hazard
RCRA	This product is considered to be a hazardous waste under RCRA (40 CFR 261) : RCRA Code : U162
SARA Title III: Section 302	This product contains no chemicals regulated under Sec. 302 as extremely hazardous substances.
SARA Title III: Section 304	This product contains chemicals regulated under Section 304 as extremely hazardous chemical for emergency release notification (" CERCLA " List) : Methyl Methacrylate CAS NO : 80 - 62 - 6 RQ (Lbs) : 1000
SARA Title III: Section 311-312:	This product is considered hazardous under the OSHA Hazard Communication Standard and is regulated under Section 311-312 (40 CFR 370). Its hazard are : Immediate (acute) health, fire and reactive hazards
SARA Title III: Section 313:	This product contains chemicals regulated as Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 : Methyl Methacrylate : CAS NO : 80 - 62 - 6
TSCA Section 8(b): Inventory:	This product or its components are listed in or exempt from the TSCA inventory requirements.

State Regulations

CA Proposition 65	This product contains no hazardous substances known to the State of California to cause cancer and adverse reproductive effects. CASRN:N/A % Composition N/A
MA Right-to-Know Law:	This product contains the following substance on the Massachusetts Substance List: Methyl Methacrylate CAS NO: 80 - 62 - 6 % Composition
NJ Right-to-Know Law:	This product contains the following substance on the New Jersey Substance List: Methyl Methacrylate CAS NO : 80 - 62 - 6 % Composition
PA Right-to-Know Law:	This product contains the following substance on the Pennsylvania Substance List: CASRN:N/A % Composition N/A

International Regulations

CDSL: Canadian Inventory (on Canadian Transitional List)	Chemical Name: Methyl Methacrylate CASRN:80-62-6
EINECS: European Inventory:	Chemical Name: Methyl Methacrylate CASRN:80-62-6
MITI: Japanese Inventory	Chemical Name: CASRN:

Section XVI - Other Information

Hazard Rating System

NFPA: Health2/Flammability =3/Reactivity2
HMIS: Health2/Flammability/ = 3 /Reactivity2

Product Number -
Revised Sections since Last Version: Section:

Approval Date: June 2004 Reviewed July 2006 Reviewed 11/18/10
Supersedes Date:

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