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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: HOOF-IT® Technologies
P.O.Box 382
MINDEN, NV. 89423
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

CHEMICAL NAME: METHYL METHACRYLATE MONOMER, INHIBITED

PRODUCT: HOOF-IT 16 COW LIQUID

PRODUCT NUMBERS: 57-0005

2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NATURE:
Methyl Methacrylate Monomer, Inhibited: CAS Number – 80-62-6 EINC – 2012971

HAZARDOUS INGREDIENT (S):	%:	HAZARD SYMBOL:	R PHRASES:
Methyl Methacrylate Monomer, Inhibited	> 65	F, Xi	11;36/37/38;43
N, N-Dimethyl-p-toluidine	< 5	T	23/24/25;33

3. HAZARDS IDENTIFICATION

Highly flammable.

Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. High atmospheric concentrations may lead to irritation of the respiratory tract and anesthetic effects. Repeated and/or prolonged contact may cause dermatitis.

4. FIRST AID MEASURES

INHALATION: Remove patient from exposure, keep warm and at rest. Obtain immediate medical attention.

SKIN: Remove contaminated clothing. Wash skin immediately with water. If symptoms (irritation or blistering) occur obtain medical attention.

EYE: Irrigate with eyewash solution or clean 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.

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.

5. FIRE FIGHTING MEASURES

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Highly flammable.

May polymerize on heating. Sealed containers may rupture explosively if hot.

EXTINGUISHING MEDIA: Water spray, 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.

6. ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection) during removal of spillages. Prevent entry into drains. Adsorb spillages onto sand, earth or any suitable adsorbent material. Do not adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

7. HANDLING AND STORAGE

PRECAUTIONS FOR HANDLING: Observe precautions found on the label. Close container after each use. Ground all metal containers when transferring. Use explosion-proof equipment.

HANDLING: Avoid contact with skin and eyes.
Avoid inhalation of high concentration of vapors. Use only in well ventilated areas.
The vapor is heavier than air; beware of pits and confined spaces. Take precautionary measures against static discharges.

STORAGE: Keep only in original container. Store in cool, dry place away from heat, sparks, flame and direct sunlight.
Keep container closed to prevent water absorption and contamination. Keep away from sources of ignition – No Smoking.

IMPORTANT: Methacrylate stored in bulk must be kept in contact with air (oxygen).

Monomer vapors are uninhibited and may form polymers in vent or flame arresters, resulting in blockage of vents.

STORAGE TEMPERATURE: Preferably not exceeding 25 °C.

INDUSTRIAL HYGIENE PRACTICES: Wash face and hands thoroughly with the soap and water after use and before eating, drinking, smoking or applying cosmetics.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

The following information is given as general guidance.

RESPIRATORS: Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate. In the event of formation of particularly high levels of vapor a self-contained breathing apparatus may be appropriate.

EYE PROTECTION: Safety glasses or chemical splash goggles.

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GLOVES: Wear suitable gloves. PVA/Polyethylene laminate and supported PVA gloves offer the best protection. Gloves should be changed regularly and if excessive exposure has occurred.

OTHER: Wear suitable protective clothing.

OCCUPATIONAL EXPOSURE LIMITS:

HAZARDOUS INGREDIENT(S):	PEL (OSHA) :	TLV (ACGIH) :	COMPANY RECOMMENDATION:
Methyl Methacrylate	100 ppm, 410 mg/m ³ , 8 Hr. TWA	100 ppm, 410 mg/ m ³ , 8 Hr. TWA	50 ppm, 205 mg/ m ³ , 8 Hr. TWA; 100 ppm, 410 mg/ m ³ 15 min.

9. PHYSICAL AND CHEMICAL PROPERTIES

VAPOR DENSITY (AIR=1):	VAPOR PRESSURE (mmHg):	WATER SOLUBILITY:
3.5 at 15.5 °C (60 °F)	28 at 20 @ 20 °C	1.6% at 20 °C
PERCENT VOLATILE:	BOIL POINT:	SPECIFIC GRAVITY (H₂O=1):
100.0	100.5 °C (214F)	0.94
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)
ODOR:	FORM:	COLOR:
Characteristic strong and acrid	Liquid	Colorless
VISCOSITY:	EVAPORATION RATE (BuAc=1):	
Like water	3.0	

10. STABILITY AND REACTIVITY

HAZARDOUS REACTIONS: Stable in the presence of inhibitor.
Susceptible to polymerization initiated by prolonged heating or the presence of catalyst.
Incompatible materials: Polymerisation catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCT(S): Does not decompose up to auto-ignition temperature.

11. TOXICOLOGICAL INFORMATION

INHALATION: Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anesthetic effects.

SKIN: May cause sensitization by skin contact. Irritating to skin. Repeated and/of 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: Repeated exposure to high levels produces adverse effects on the heart, lungs, liver, and kidneys.

Repeated exposure of animals by inhalation to levels at or above the occupational exposure level produces adverse effects on the nasal epithelium (levels of 100 and 400 ppm).

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There is no reason to believe that methyl methacrylate represents a carcinogenic or mutagenic hazard to man based upon evidence from well conducted animal studies, relevant mutagenicity studies and adequate epidemiology studies in relevant cohorts.

Recent studies in animals have shown that high exposures do not produce embryo or foetotoxic nor teratogenic effects in the presence of maternal toxicity.

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

TOXICITY DATA:

For Methacrylate: Acute Oral Rat LD₅₀: 7990 mg/kg
 Acute Dermal Rabbit LD₅₀ 35,500 mg/kg
 Acute Inhalation Rat: LC₅₀ >12,500 to 16,500 ppm for 0.5 hours
 Inhalation Human TC_{Lo} 125 ppm
 Inhalation Human TC_{Lo} 60 mg/m³
 Human Patch Test: Approximate one-third of subjects developed mild redness at the site of application. Twenty percent showed sensitivity when tested 10 days later.

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 low potential for bioaccumulation. The product is predicted to have high mobility in soil.

PERSISTENCE AND DEGRADATION: Not readily biodegradable.
 Chemical Oxygen Demand (COD) 88% (28 days).
 Inherent Biodegradation:
 Dissolved Organic Carbon Removal (DOC removal) > 95% (28 days)

TOXICITY: Low toxicity to fish.
 LC50 (fish) Typically: >100 mg/l.
 LC50 (fathead minnow) (96 hour) (static) 130 mg/l.
 Harmful to aquatic invertebrates.
 EC50 (Daphnia magna) (48 hour) 69 mg/l
 Low toxicity to algae.
 EC50 (selenastrum capricornutum) (96 hour) 170 mg/l.

EFFECT ON EFFLUENT TREATMENT: The product is substantially removed in biological treatment processes.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators suitable for the disposal of methyl methacrylate. Decontaminate empty drums before recycling.

14. TRANSPORTATION

DOT / UN SHIPPING NAME: Methyl Methacrylate Monomer, Inhibited
 NA/UN NUMBER: UN1247
 DOT/UNCLASS: 3
 PACKING GROUP: II
 LABEL: FLAMMABLE LIQUID
 AIR TRANSPORT-
 IATA CLASS: 3
 OCEAN TRANSPORT-
 IMDG CLASS: 3.2

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15. REGULATORY INFORMATION

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.

CANADIAN REGULATIONS:

DSL: included

WHMIS Classification: B2 Flammable Liquid
 D2B Toxic

TSCA: FOR USE IN FDA REGULATED PRODUCTS ONLY

16. OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMIS) RATING:

HEALTH = 2
 FLAMMABILITY = 3
 REACTIVITY = 2
 PERSONAL PROTECTIVE EQUIPMENT – Gloves and safety glasses or chemical splash goggles.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION RATING:

HEALTH = 2
 FLAMMABILITY = 3
 REACTIVITY = 2

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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UPDATE: 08/xx/01

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MANUFACTURER: HOOF-it® Technologies
P.O.Box. 382
MINDEN, NV. 89423
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

CHEMICAL NAME: METHACRYLATE POLYMER

PRODUCT: HOOF-IT II ACRYLIC POWDER (Printed green label)

PRODUCT NUMBERS: 57-H0020, 57-H0030

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT (S):	CAS NUMBER:	%:
Particulates, NOC	NE	< 99
Benzoyl Peroxide	94-36-0	<2

3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY: Eyes or skin (no absorption); inhalation of dusts.
Avoid inhalation of dust. Keep dust out of eyes to prevent possible irritation.

EFFECTS OF OVER EXPOSURE: OSHA classifies this material as Particulates, not otherwise classified. Eyes, skin and respiratory tract may be irritated by gross overexposure to particulates, not otherwise classified, no matter how they are generated.

4. FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. Get medical help if discomfort persists.
EYES: Flush with water for 15 minutes, including under eyelids. Get medical help if discomfort persists.
SKIN: Wash with soap and water. Get medical help if discomfort persists.
INGESTION: Rinse mouth out with water. Call doctor if amount was large.

5. FIRE FIGHTING MEASURES

EXTINGUISHER METHOD: Water, carbon dioxide, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Avoid extinguishing methods, which may generate dust clouds. Water stream can disperse dust in air, producing a fire hazard and possible explosion hazard if exposed to ignition source.

UNUSUAL, FIRE AND EXPLOSION HAZARDS: Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust. Fire fighters should wear self-contained breathing apparatus.

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6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep up to avoid slipping hazard. Keep airborne particulate at a minimum when cleaning up spills.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep only in original container and store in cool dry place. Keep container closed to prevent water absorption and contamination.

STORAGE TEMPERATURE: Preferably not exceeding 35 °C.

OTHER PRECAUTIONS: Wash thoroughly after use and before eating or smoking.

8. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Use type for particulates not otherwise classified, if needed.

VENTILATION: Local exhaust at processing equipment.

PROTECTIVE GLOVES: If hot plastic is handled.

EYE PROTECTION: Safety glasses or chemical splash goggles.

OCCUPATIONAL EXPOSURE LIMITS:
HAZARDOUS INGREDIENT (S) – None

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: NA

SPECIFIC GRAVITY (H₂O=1): 1.25

VAPOR PRESSURE: NA

PERCENT VOLATILE W/W%: NA

VAPOR DENSITY (AIR=1): NA

EVAPORATION RATE: NA

FLASH POINT: 304° C (580° F)

FLAMMABLE LIMIT, AIR VOL% LOWER: NA
UPPER: NA

AUTOIGNITION TEMPERATURE: NE

APPEARANCE AND ODOR: Fine white powder.
Faint odor in bulk.

SOLUBILITY IN WATER: Insoluble

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Heating above 240° C (464° F)

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Methacrylate monomers and oxides of carbon when burned.

HAZARDOUS POLYMERIZATION: Will not occur.

MATERIAL SAFETY DATA SHEET**11. TOXICOLOGICAL PROPERTIES**

PRIMARY ROUTES OF ENTRY: Eyes or skin (no absorption); inhalation of dusts.

CARCINOGENICITY: None of the components of this material are listed by IARC, NTP, OSHA, or ACGIH as carcinogens.

TARGET ORGANS: For Polymer: None Listed.

MUTAGENICITY DATA: For Polymer – None Listed.

REPRODUCTIVE TOXICITY DATA: For Polymer – None Listed.

TOXICITY DATA: For Polymer: None Listed. RTECS: Not Listed. TSCA: Listed.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY: For Polymer – None Listed.

ECOLOGICAL TOXICITY: For Polymer – Not known.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: May be disposed of in landfill or incinerated. Follow federal, state and local regulations for disposal.

14. TRANSPORTATION

NON-HAZARDOUS

SHIPPING NAME: Synthetic Gum Resin Granular, NOIBN

15. REGULATORY INFORMATION

TSCA: For use in FDA regulated products only.

CANADIAN WHMIS: This product has been classified in accordance with the hazardous criteria of the CPR and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM (HMS) RATING:

HEALTH = 1

FLAMMABILITY = 1

REACTIVITY = 0

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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