SAFETY DATA SHEET

1. IDENTIFICATION

TECHNOVIT LIQUID

For treatment and repair of livestock hooves.

Jorgensen Laboratories
1450 Van Buren Avenue
Loveland, Co. 80538
Phone: (970) 669-2500 or (800) 525-5614 Fax: (970) 663-5042

Product Codes: 61-LA, 61-LB

Date: March 20, 2015

Emergency Phone Number: U.S. and Canada (800) 535-5053
International: (352) 323-3500 (INFOTRAC)

2. HAZARD(S) IDENTIFICATION...

Flammable Liquid and Vapor Category 2

Respiratory or skin sensitization: Category 1
Skin Irritation: Category 2
Skin sensitization: Category 1
Specific target organ toxicity following single exposure: Category 3

Signal word: Danger

Health Hazard: Irritating to skin and respiratory system. Harmful by Inhalation and if swallowed.

Environmental Hazard: Toxic to aquatic organisms.

Hazard statements:
H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.

Precautionary Statements:
P210: Keep away from heat, sparks, open flame, hot surfaces-No Smoking.
P261: Avoid breathing vapours.
P280: Wear protective gloves/protective clothing/eye protection/ Face protection.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P501: Dispose of contents/container to hazardous waste in Accordance with local, state or national legislation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	Cas #	%
Methyl Methacrylate monomer	80-62-6	99
Methyl, N-Hydroxyethyl-P-Toluidine	2842-44-6	<1

4. FIRST AID MEASURES

Description of first aid measures

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

Skin Contact — In case of contact, immediately wash skin with soap and water. Obtain medical attention if blistering occurs or redness persists. Wash contaminated clothing before reuse.

Eye Contact — In case of contact, immediately flush eyes 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media	Foam, Dry Chemical, CO2, Water spray (by trained personnel).
Unsuitable Extinguishing Media	Do not use water jet.

Special hazards arising from the substance or mixture

Highly flammable liquid and vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Eliminate sources of ignition. Wear protective gloves and eye/face protection. Avoid breathing vapors. See Section 8.

Environmental precautions

Avoid release to the environment.

Methods and material for containment and cleaning up

Collect spillage. Do not adsorb onto sawdust or other combustible materials; use earth, sand or other inert material. Transfer to a lidded container for disposal or recovery. Use only non-sparking tools.

Reference to other sections

See Section 8, 13

7. HANDLING AND STORAGE

Precautions for safe handling

Do not eat, drink or smoke at the work place. Wash thoroughly after handling.

Avoid breathing vapors. Use only outdoors or in a well-ventilated areas. The vapor is heavier than air.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a well-ventilated place. Keep cool. Keep away from heat, sparks, open flame, hot surfaces-No smoking. Protect from sunlight.

Storage Temperature	Preferable not exceeding 77° F (25°)
Incompatible materials	Polymerization catalysts, such as peroxy or azo compounds, strong acids, alkalis and oxidizing agents. Oxides and salts of transition metals. Organic Nitrogen containing compounds. Cyclohexanone/Cyclohexenol tautomer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Appropriate engineering controls

Do not eat, drink or smoke at the work place. Keep container tightly closed. Observe label precautions.

Use ventilation that is adequate to keep exposure to airborne concentrations below exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Worker: Wear protective equipment to comply with good occupational hygiene practice.

Eye/face protection

Wear eye/face protection

Safety spectacles/goggles.

Skin protection

Wear impervious clothing to prevent contact with product, such as gloves, apron, Nitrile rubber is better than PVC.

Respiratory protection

Wear suitable respiratory protective equipment if engineering controls are insufficient or not present and exposure to levels above the DNEL is likely. A suitable mask with filter type A may be appropriate.

Exposure limits

Methyl Methacrylate-Inhibited

PEL (OSHA)	:100ppm, 410 mg/m3, 8 Hr. TWA
TLV (ACGIH)	:100 ppm, 410 mg/m3, 8 Hr. TWA
ICI (recommended)	: 50ppm, 205 mg/m3, 15 min. STEL

9. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	Clear/colorless
Odor	Characteristic strong and acrid
Odor Threshold (ppm)	0.5-1.0
pH (Value)	Not applicable
Melting Point	-48 C (-54 F)
Boiling Point	100.5 C (213 F) @ 760 mm Hg
Flash Point	10 C (Closed cup)
Vapor Pressure	28 mm Hg @ 20 C (68F)
Vapor Density	3.5 (Air=1)
Solubility (Water)	Slightly soluble 1.6 at 20 C (68 F)
Solubility (Other)	Miscible with most organic solvents
Partition Coefficient (n-Octanol/water)	1.38
Density	0.949 at 15.5 C (60 F)

10. STABILITY AND REACTIVITY

Chemical Stability	Unstable with heat.
Incompatibility with other materials	Incompatible with strong oxidizing agents 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, acrid smoke, and irritating fumes.**
Polymerization	Polymerization can occur. Conditions leading to polymerization are excessive heat, and inadvertent addition of catalyst. Contamination of product may also cause polymerization.

11. TOXICOLOGICAL INFORMATION

Animal Data

Inhalation 4 hour LD50:	7093 ppm in rats (very low toxicity by inhalation)
Skin absorption LD50:	>35,500 mg/Kg in rabbits (very low toxicity by contact)
Oral LD50:	7900mg/Kg in rats (very low toxicity by ingestion)

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).

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 revelant cohorts.

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

12. ECOLOGICAL INFORMATION

Ecotoxicological information

ENVIRONMENTAL FATE AND DISTRIBUTION

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)

AQUATIC TOXICITY

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

EFFECT ON EFFLUENT TREATMANT

Product is substantially removed in biological treatment processes.

13. DISPOSAL CONSIDERATIONS

Avoid release to the environment.

Waste treatment methods

Dispose of contents/container to hazardous waste in accordance with local, state or national legislation.

14. TRANSPORTATION INFORMATION

Shipping Information

DOT shipping Description: Methyl Methacrylate Monomer, Inhibited, 3, UN1247, PGII

TMD Shipping Information

Proper shipping Name:	**Methyl Methacrylate Monomer**
TMD Class:	**3.2 (9.2)**
I.D. No. (UN/NA):	**UN1274**
TMD Packing Group:	**II**

16. OTHER INFORMATION

Issue Date: March 30, 2015

Reason for revision: Updated to comply with Revised Hazard Communication Standard (HCS)

By Dale Peterson, Chemist

Disclaimer