



1. PRODUCT & COMPANY IDENTIFICATION

Product Identification: Mastisol® Liquid Adhesive
 Manufacturer: Ferndale Laboratories, Inc.
 780 West Eight Mile Road
 Ferndale, Michigan 48220-2498
 U.S.A.
 Telephone Number: 1-248-548-0900
 Fax Number: 1-248-548-8427

2. INGREDIENTS/IDENTITY INFORMATION

Ingredient:	Ethanol (Ethyl Alcohol)		
CAS Number:	64-17-5	OSHA PEL:	TWA 1000 ppm (1900 mg/m ³)
EINECS:	200-578-6	NIOSH REL:	TWA 1000 ppm (1900 mg/m ³)
NIOSH (RTECS)	KQ630000	ACGIH TLV:	TWA 1000 ppm (1900 mg/m ³)
Ingredient:	Acetone		
CAS Number:	67-64-1	OSHA PEL:	TWA 1000 ppm (2400 mg/m ³)
EINECS:	200-662-3	NIOSH REL:	TWA 250 ppm (590 mg/m ³)
NIOSH (RTECS)	AL3150000	ACGIH TLV:	TWA 500 ppm (1180 mg/m ³) STEL: 750 ppm (1770 mg/m ³)
Ingredient:	Methyl Salicylate		
CAS Number:	119-36-8	OSHA PEL:	None established
EINECS:	204-317-7	NIOSH REL:	None established
NIOSH (RTECS)	VO4725000	ACGIH TLV:	None established
Ingredient:	Gum Mastic (Mastic, resin)		
CAS Number:	61789-92-2	OSHA PEL:	None established
EINECS:	263-098-6	NIOSH REL:	None established
NIOSH (RTECS)	N/A	ACGIH TLV:	None established
Ingredient:	Storax (Styrax)		
CAS Number:	8046-19-3	OSHA PEL:	None established
EINECS:	232-458-4	NIOSH REL:	None established
NIOSH (RTECS)	N/A	ACGIH TLV:	None established
Ingredient:	Water		
CAS Number:	7732-18-5	OSHA PEL:	None established
EINECS:	231-791-2	NIOSH REL:	None established
NIOSH (RTECS)	ZC0110000	ACGIH TLV:	None established

3. HAZARD IDENTIFICATION

Emergency Overview:

This material is HAZARDOUS by OSHA Hazard Communication definition. WARNING! FLAMMABLE. Material can burn with little or no visible flame. May be harmful if swallowed. May be irritating to the eyes and upper respiratory tract. May affect the Central Nervous System.

National Fire Protection Association (NFPA)	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	
	2	3	0	
Hazardous Material Identification System (HMIS)	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>	<u>Protection</u>
	2	3	0	E

Potential Health Effects:

Routes of Exposure: Inhalation, Skin, Ingestion, Eyes

Inhalation: Inhalation of vapors irritates the respiratory tract. Inhalation may cause severe irritation of mucous membranes and upper respiratory tract. May cause coughing, dizziness, dullness, and headache. Higher concentrations can produce central nervous system depression, narcosis, and unconsciousness.

Skin Contact: May cause irritation, and skin rashes in sensitive individuals. Skin absorption has reportedly occurred, but toxic levels are reached only when large skin areas are covered with the drug in a suitable base (e.g., lanolin). May cause dermatitis by defatting the skin from prolonged or repeated contact. Causes redness, pain, drying and cracking of the skin.

Ingestion: Swallowing small amounts are not likely to produce harmful effects. Ingestion of larger amounts may produce abdominal pain, nausea and vomiting. Aspiration into lungs may produce severe lung damage and is a medical emergency. Effects of alcohol ingestion depend on the amount and rate of consumption. Short-term overexposure can cause drunkenness, depression of the central nervous system, nausea, vomiting, diarrhea, liver damage, and death. Other symptoms are expected to parallel inhalation.

Eye Contact: Vapors may be irritating to the eyes. Splashes may cause severe irritation, with stinging, tearing, redness and pain.

Effects of Short-Term Exposure: May cause eye and upper respiratory tract irritation. Short-term overexposure above 1,000 ppm by the inhalation route may cause central nervous system (CNS) effects such as headache and irritation of eyes, nose and throat. If continued for more than an hour additional CNS effects may occur such as dizziness, loss of appetite, and an inability to concentrate. Gastrointestinal (stomach) effects may occur with symptoms such as nausea and vomiting.

Effects of Long-Term or Repeated Exposure: Long-term exposure can also cause loss of appetite, weight loss, nervousness, memory loss, mental retardation and liver damage. May cause dermatitis by defatting the skin from prolonged or repeated contact. Alcoholic beverages are carcinogenic to humans. Ethanol is a developmental toxin and various effects have been associated with ethanol intake. Examples of chronic ethanol abuse effects include physical dependence, malnutrition, amnesia, dementia, somnolence, cardiac myopathy, hepatotoxicity, GI bleeding and pancreatitis. Combined exposure to ethanol and certain other chemicals may result in increased toxic effects. This product contains ethyl alcohol which is toxic to blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS). This product contains methyl salicylate which is toxic to blood, lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Prolonged or repeated skin contact may produce severe irritation or dermatitis.

Conditions Aggravated by Exposure Any pre-existing disorders or diseases of the nervous system, liver, respiratory system, skin, eyes, gastrointestinal tract.

4. FIRST AID MEASURES

Take precautions to ensure your own health and safety before attempting rescue and providing first aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention of symptoms appear.

Serious inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as collar, tie, belt, or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Eye: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Do not use an eye ointment. Get medical attention immediately.

Skin: After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.

Serious skin contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Ingestion: If swallowed, vomiting may occur spontaneously but DO NOT INDUCE. If vomiting occurs, keep head below hips to prevent aspiration into lungs. If swallowed, give lukewarm water or milk (pint / ½ liter) if victim is completely conscious/alert. Never give anything by mouth if victim is unconscious or having convulsion. Do not induce vomiting unless directed by medical personnel. Loosen tight clothing such as collar, tie, belt or waistband. Seek immediate medical attention.

Note to Physician: For ingestion, consider gastric lavage, catharsis and activate charcoal slurry. Avoid depressants. Provide oxygen and/or ventilation assistance, if needed. Do not induce vomiting. However, if vomiting occurs spontaneously, maintain open airway. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING

	<u>Health</u>	<u>Flammability</u>	<u>Reactivity</u>
National Fire Protection Association (NFPA)	2	3	0
Flash Point: 11.7°C (53°F) [EPA 1010]			
Autoignition Temperature: Not available			
Flammable or Explosive Limits (Approximate percent by volume in air)			
Lower Explosive Limit (LEL): Not available			
Upper Explosive Limit (UEL): Not available			

Explosion: Risk of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in the presence of oxidizing materials.

Special Remarks on Explosion Hazard: Vapors may explode if ignited in an enclosed area. Containers may explode when heated or involved in a fire. Ethanol has an explosive reaction with the oxidized coating of potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride = sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous (III) oxide platinum, potassium-tert-butoxide + acids. Ethanol forms explosive products with the following compound: ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorous (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). Sodium Hydrazide + alcohol can produce an explosion. Alcohols should not be mixed with mercuric nitrate, as explosive mercuric fulminate may be formed. May form explosive mixture with manganese perchlorate + 2,2-dimethoxypropane. Additions of alcohol to highly concentrated hydrogen peroxide forms powerful explosives. Explodes on contact with calcium hypochlorite.

Decomposition: CO, CO₂. Emits toxic fumes under fire conditions.

Extinguishing Media and Fire Fighting Procedures:

Small fire: Use dry chemicals, CO₂, water spray or alcohol resistant foam.

Large fire: Use water spray, water fog or alcohol-resistant foam.

Water may be ineffective. Water spray may be used to keep fire exposed containers cool, dilute spill to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

Protection of Firefighters: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus (SCBA) with full facepiece operated in pressure demand or other positive pressure mode. Structural firefighters protective clothing will only provide limited protection.

Fire Fighting Guidance: Ethanol vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. Alcohols burn with a pale blue flame which may be hard to see under normal lighting conditions. Personnel may only be able to feel the heat of the fire without seeing flames.

Extreme caution must be exercised when fighting alcohol fires. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fires is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. Sealed containers may rupture when heated. This material may produce a floating fire hazard.

6. ACCIDENTAL RELEASE MEASURE

Steps To Be Taken In Case Material Is Released Or Spilled:

Small spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large spill: Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Prevent entry into sewers, basements or other confined areas; dike if needed. Be careful that the product is not present at a concentration above TLV. Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. Depending on the size and nature of the release, all responders may need to be HAZWOPER trained and local, state and federal authorities may need to be notified. US Regulations (CERCLA) require reporting spill and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. HANDLING AND STORAGE

Handling: Keep away from heat. Keep away from sources of ignition. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded. Ground all equipment containing this material. Do not ingest. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.

Storage: Protect container against physical damage. Ground all equipment containing material. Keep container

tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents. Inside storage should be in an NFPA approved flammable liquids storage room or cabinet. All ignition sources should be eliminated. Electrical installations should be in accordance with Article 501 of the National Electrical Code. NFPA 30, Flammable and Combustible Liquids Code, should be followed for all storage and handling. Consult local fire codes for additional storage information.

“Empty” Container Warning: “Empty” containers retain residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut weld, braze, solder, drill grind or expose such containers to heat, flame, sparks, static electricity or other sources of ignition; they may explode and cause injury or death. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Limits: No airborne exposure limits were found for this material. Please review the airborne exposure limits on components presented below:

ETHANOL

ACGIH TLV:	TWA 1000 ppm
OSHA PEL:	TWA 1000 ppm
NIOSH REL:	TWA 1000 ppm (1900 mg/m ³)
NIOSH IDLH:	3300 ppm [10% LEL]

ACETONE

ACGIH TLV:	TWA 500 ppm	STEL: 750 ppm
OSHA PEL:	TWA 1000 ppm	(2400 mg/m ³)
NIOSH REL:	TWA 250 ppm	(590 mg/m ³)
NIOSH IDLH:	2500 ppm	[10% LEL]

Ventilation: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Respiratory Protection: A respiratory protection program that meets OSHA’s 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection: Wear chemical resistant gloves such as rubber, neoprene or vinyl. When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn.

Eye Protection: Wear safety glasses as minimum eye protection. Conditions may warrant use of chemical safety goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with OSHA’s eye and face protection regulations in 29 CFR 1910.133 or ANSA Z87.1 requirements. Maintain eye wash fountain and quick-drench facilities in work area.

Work Practices/Engineering Controls: Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) being performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential may slowly penetrate protective gloves; therefore, in case of spills, discard gloves after use.

Personal Hygiene: Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse.

PPE In Case Of Large Spill: Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient, consult a specialist BEFORE handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow colored liquid with a strong aromatic or balsamic odor

Boiling Point: 78.3°C (173°F) [for pure ethanol]

Vapor Pressure (mm Hg @ 70°C): Not available

Vapor Density (Air = 1): Not available

Percent Volatiles by Volume: Not available

Specific Gravity: 0.85 – 0.90
Evaporation Rate (n-Butyl Acetate = 1) Not available
Solubility in Water: Partially
Pour, Congealing or Melting Point: Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: CO, CO₂. May produce acrid smoke and irritating fumes when heated to decomposition.

Hazardous Polymerization Will not occur.

Conditions/Materials to Avoid: Avoid contact with strong oxidizers, excessive heat, sparks or open flame. Contact with acetyl chloride or other oxidizing agents may result in a violent reaction. Does not react with air, water or other common materials

Special Remarks on Reactivity: Ethanol rapidly absorbs moisture from the air. Can react vigorously with oxidizers. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid, permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium (VIII) oxide, silver perchlorate, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/explodes with the following compounds: acetyl bromide (evolves hydrogen bromide), acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2,-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxid, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorosilane + water. Ethanol is also incompatible with platinum and sodium. No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled. Reacts vigorously with acetyl chloride.

11. TOXICOLOGICAL INFORMATION

Product Summary: No toxicological data was found for this material. Please review the toxicological information on components presented below.

ETHANOL:

Acute Toxicity Data

LD50 (Oral): 7060 mg/kg BWT [Rat]
LD50 (Oral): 3450 mg/kg [Mouse]
LC50 (Inhl): 20000 ppm 10 hours [Rat]
LC50 (Inhl): 39000 mg/m³ 4 hours [Mouse]
LDLo (Oral): 1400 mg/kg BWT [Human]

Skin Effects: Defatting of the skin with irritation, dryness and cracking. Standard Draize test (rabbit) – Dose 20 mg/24 hrs Reaction: Moderate

Eye Effects: Eye exposure to ethanol generally causes transient pain, irritation, and reflex lid closure. A foreign-body sensation may persist for one to two days. Vapors produce transient stinging and tearing, but no apparent adverse effects. Transiently impaired perception of color may occur with acute ingestion or chronic alcoholism. Standard Draize eye test (rabbit) – Dose: 500 mg Reaction: Severe Dose: 500 mg/24 hrs Reaction: Mild

Carcinogenicity: The International Agency for Research on Cancer (IARC) has determined alcoholic beverages are carcinogenic to humans (Group 1) and the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus and liver is causally related to the consumption of alcoholic beverages in humans. The American Conference of Governmental Industrial Hygienists (ACGIH) list ethyl alcohol as an A4 – Not classifiable as a Human Carcinogen. These are agents, which cause concern that they are carcinogenic for humans, but which cannot be assessed conclusively because of lack of data. Animal studies do not provide indications carcinogenicity which are sufficient to classify the agent into one of their other categories.

Reproductive/Developmental Effects: Excessive consumption of alcoholic beverages during pregnancy is associated with the development of a syndrome of physical and mental manifestation in the offspring – the fetal alcohol syndrome; it may also cause defects in the central nervous system, heart, kidney and limbs. Moderate consumption can be associated with reduced birth weight and behavioral defects, but effects generally have not been observed with an intake of about one drink per day.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion

Special Remarks on other Toxic Effects on Humans: Acute potential health effects: Skin: causes skin irritation. Eyes: causes eye irritation. Ingestion: May cause gastrointestinal irritation with nausea, vomiting, diarrhea, and alterations in gastric secretions. May affect behavior/central nervous system (central nervous system depression – amnesia, headache, muscular incoordination, mild euphoris, slurred speech, drowsiness, staggering gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripheral nervous system (spastic paralysis), vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect metabolism, blood, liver, respiration (dyspnea), and endocrine system. May affect respiratory tract, cardiovascular (cardiac arrhythmias, hypotension), and urinary systems. Inhalation: May cause irritation of the respiratory tract and affect behavior/central nervous system with symptoms similar to ingestion.

Chronic Effects on Humans: Causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS). Skin: Prolonged or repeated contact may cause dermatitis, an allergic reaction. Ingestion: Prolonged or repeated ingestion will have similar effects as acute ingestion. It may also affect the brain.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic). Causes adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. May cause cancer based on animal data. Human: passes through the placenta, excreted in maternal milk.

ACETONE

Acute Toxicity Data

LD50 (Oral): 7060 mg/kg [Rat]

LC50 (Inhl): 20000 ppm 10 hours [Rat]

LDLo (Oral): 1400 mg/kg [Human]

Investigated as a tumorigen, mutagen, reproductive effector.

Skin Effects: Standard Draize skin test (rabbit) – Dose: 500 mg/24 hrs Reaction: Mild

Eye Effects: Standard Draize eye test (rabbit) – Dose: 20 mg Reaction: Severe

Carcinogenicity: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. ACGIH: A4

Reproductive/Developmental Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count) was noted when male rats were orally dosed with 273 mg/kg 13 weeks prior to mating.

Species: Rat Dose: 273 g/kg Route of Application: Oral Exposure Time: (13 W Male) Result: Paternal Effects:

Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Species: Mammal Dose: 31500 ug/m³/24H Route of Application: Inhalation Exposure Time: (1-3D PREG) Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Mutagenic Effects: Species: Hamster Dose: 40 g/L Cell Type: Fibroblast Mutation Test: Cytogenic analysis

Other Toxic Effects on Humans: May cause eye, skin, and respiratory tract irritation. Repeated skin contact may cause dryness and cracking of the skin. Overexposure to high vapor concentrations may cause central nervous system (CNS) effects such as: headache, nausea, confusion, incoordination, and CNS depression. Ingestion may cause gastrointestinal irritation, injury to liver and kidneys, and CNS effects similar to those created by breathing excessive vapor levels.

Chronic Effects on Humans: May cause dermatitis by defatting the skin from prolonged or repeated contact.

METHYL SALICYLATE

Acute Toxicity Data

LD50 (Oral): 887 mg/kg [rat]

Investigated as a mutagen, reproductive effector

Skin Effects: Rabbit: 500 mg/24 Hr Moderate;

Eye Effects: Rabbit: 500 mg/24 Hr Mild

Carcinogenicity: NTP – Known: No NTP-Anticipated: No IARC Category: None

Reproductive/Developmental Effects:

Other Toxic Effects on Humans: Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator). Irritant to eye and surrounding membranes. Can be severe with permanent damage

Chronic Effects on Humans: This substance is toxic to blood, lungs, the nervous system, mucous membranes.

Special Remarks on Chronic Effects on Humans: Embryotoxic and/or fetotoxic in animal. Passes through the placental barrier in animal. May cross the placenta. May be excreted in breast milk. Interactions with drugs may occur.

GUM MASTIC

May cause skin irritation. May cause eye irritation. May be harmful by inhalation, ingestion, or skin absorption. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

STORAX

May cause skin irritation. May be harmful if absorbed through skin. May cause eye irritation. May be harmful if swallowed. Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if swallowed. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Environmental Fate/Toxicity

ETHANOL

When spilled on the land ethyl alcohol is apt to volatilize, biodegrade, and/or leach into the ground water. It is anticipated based on physical properties of ethyl alcohol including water solubility, vapor pressure, and octanol/water coefficient (log P = -0.31) that water will serve as the final media. Based on these factors it is anticipated that this substance will neither absorb to soil nor bioconcentrate in aquatic organisms. Once in water photolysis, oxidation, hydrolysis and biodegradation is anticipated to occur. This material is not classified as harmful or toxic to fish. This material is not classified as harmful or toxic to algae or higher aquatic plants.

ACETONE

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released in to the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released into water, this material is expected to quickly evaporate. This material has a log octanol/water coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition. This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/L.

METHYL SALICYLATE:

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is expected to readily biodegrade. When released into water, this material is expected to have a half-life between 10 and 30 days. This material has an estimated bioconcentration factor (BCF) of less than 100. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air this material is expected to have a half-life between 1 and 10 days.

GUM MASTIC

No information found.

STORAX

No information found.

13. DISPOSAL RECOMMENDATIONS

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated products/soil/water may be Resource Conservation and Recovery Act (RCRA) hazardous waste/Occupational Safety and Health Administration (OSHA) hazardous material due to low flash point (see 40 Code of Federal Regulations (CFR) 261 and 29 CFR 1910). Observe all federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

Transportation Incident Information: For further information related to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT Hazardous Material Shipping Description

Consumer Commodity

Proper Shipping Name: None
Hazard Class: 9

Material Safety Data Sheet – Mastisol® Liquid Adhesive

UN/NA ID: 8000
Packing Group: None
Nonconsumer Commodity
Proper Shipping Name: Adhesives
Hazard Class: 3
UN/NA ID: 1133
Packing Group: PG II

15. REGULATORY INFORMATION

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

TSCA: All components of this product are listed or are exempt from listing on the TSCA 8(b) inventory.

SARA 302/304: No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

SARA 311/312: Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312. Immediate (Acute) Health Hazard Delayed (Chronic) Health Hazard Fire Hazard

SARA 313: This material does not contain any chemical components with CAS numbers that exceed the De Minimis reporting levels established by SARA Title III Section 313 and 40 CFR 372.

State Regulatory Information: If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

<u>CAS#</u>	<u>Name</u>	<u>State List</u>
119-36-8	Methyl salicylate	RI, PA
64-17-5	Ethanol	RI, PA, NJ, MN, FL, CA
67-64-1	Acetone	RI, PA, NJ, MN, FL, CA

California prop. 65 This product contains the following ingredient for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would required a warning under the statute: Ethyl alcohol (when in alcoholic beverages).

16. OTHER INFORMATION

Date Issued: May 2, 2005
Supersedes Date: June 2, 2002
MSDS0523

Notice: The information in this data sheet has been assembled by the manufacturer based on its own studies and on the work of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee, the vendee's employees or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information. Persons obtaining shall make their own determination as to the suitability of the product for their particular use.