PART I  What is the material and what do I need to know in an emergency?

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED): PRESERVA® WOOD STAIN 250 VOC
CHEMICAL NAME/CLASS: Mineral Spirits Solvent and Oil Stain
SYNONYMS: None
PRODUCT USE: Wood Stain
SUPPLIER/MANUFACTURER'S NAME: Preserva Products Ltd.
ADDRESS: 12860 Earhart Avenue, Auburn, CA 95602
EMERGENCY PHONE: 800-797-2537 M-Th, 9am-4pm PST
BUSINESS PHONE: 800-797-2537 M-Th, 9 am-4pm PST
EMAIL ADDRESS FOR PRODUCT INFORMATION: info@preservaproducts.com
DATE OF PREPARATION: April 3, 2015
NOTE: In accordance with 2012 OSHA Hazardous Communication Standard

2. HAZARD IDENTIFICATION

GHS Pictograms:

Signal Word: Warning.
GHS Class: Combustible Liquid, Category 4.
Aspiration Hazard, Category 1.
Eye Irritant, Category 2.
Skin Irritant, Category 2.
Specific Target Organ Toxicity, Single Exposure, Category 3.
Acute Inhalation Toxicity, Category 4

Hazard Statements: Combustible liquid and vapor
May be fatal if swallowed and enters airways.
Causes serious eye irritation.
Harmful if inhaled.
May cause respiratory irritation, drowsiness or dizziness.

Precautionary Statements: DO NOT use this product unless you can achieve cross-ventilation by opening windows and doors during application and drying or use the product outdoors.
Do not spray on an open flame or other ignition source.
Extinguish all flames and pilot lights and turn off stoves, heaters, electric motors, high intensity lights and other sources of ignition during use and until all vapors are gone.
In case of fire: Use dry chemical, carbon dioxide to extinguish small fires. Use water for large fires.
Wear protective clothing, gloves, eye, and face protection.
Do not breathe vapors or spray mist.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Keep container tightly closed.
Store locked up in a cool, well-ventilated place.
Dispose of unused contents, container, and other contaminated wastes in accordance with local, state, federal, and provincial regulations.
If in eyes: Rinse cautiously with water for several minutes and remove contacts if present and easy to do. Continue rinsing and get medical attention if eye irritation persists.
If on skin or hair: Wash with plenty of soap and water. If skin irritation or rash occurs, get medical attention.
If inhaled: Leave the area if you experience headaches, drowsiness or dizziness to obtain fresh air and keep at rest in a position comfortable for breathing. If difficulty continues, get medical attention immediately.
If swallowed: Do not induce vomiting and get medical attention immediately.

Emergency Overview: DANGER! Flammable. Harmful if swallowed. Aspiration may occur during swallowing or vomiting, resulting in lung damage. Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Irritant.
Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Causes severe eye irritation and possible injury.

Skin: Causes skin irritation.

Inhalation: Harmful if inhaled. Inhalation of vapors may cause drowsiness and dizziness. Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis that can be fatal.

Chronic Health Effects: Prolonged or repeated contact can result in defatting and drying of the skin, which may result in skin irritation and dermatitis (rash). Repeated or prolonged inhalation may cause toxic effects.

Signs/Symptoms: Overexposure can cause headaches, dizziness, nausea, and vomiting.


Aggravation of Pre-Existing Conditions: May aggravate pre-existing respiratory disorders, allergy, eczema, or skin conditions.

3. COMPOSITION and INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>% w/v</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Vegetable and Soy Oil Mixture</td>
<td></td>
<td>40-70%</td>
</tr>
<tr>
<td>Proprietary Mineral Spirits</td>
<td></td>
<td>15-40%</td>
</tr>
<tr>
<td>Proprietary Alkyd Resin</td>
<td></td>
<td>10-30%</td>
</tr>
<tr>
<td>Other trace or non-hazardous components. Each of the other components are not hazardous or are present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens) or do not carry a hazard classification and do not present additional hazards to the product.</td>
<td>Balance</td>
<td></td>
</tr>
</tbody>
</table>

PART II What should I do if a hazardous situation occurs?

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should be taken for medical attention if necessary. Remove or cover gross contamination to avoid exposure to rescuers.

DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must seek medical attention if any adverse effect occurs. Take a copy of label and MSDS to physician or health professional with the contaminated individual.

Skin Exposure: If this product contaminates the skin and irritation develops, immediately begin decontamination with soap and water. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual must seek medical attention if adverse effects continue after flushing.

Eye Exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if adverse effect occurs after flushing.

Inhalation: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if adverse effect occurs after removal to fresh air.

Ingestion: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

IMPORTANT SYMPTOMS AND EFFECTS: See Sections 3 (Hazard Identification) and 11 (Toxicological Information).
4. FIRST-AID MEASURES (Continued)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions, skin disorder, central nervous system conditions, or disorders involving the “Target Organs” (see Section 11, “Toxicological Information”) may be aggravated by overexposure to this product.

IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED: Treat symptoms and eliminate overexposure. Provide oxygen, if necessary. Pulmonary function tests, chest X-rays, and nervous system evaluations may prove useful. The following are treatment recommendations available for products that contain high levels of solvents.

For basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilation if necessary. Administer oxygen by non-rebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, administer activated charcoal.

For advanced treatment: Consider orotracheal or nasotracheal intubation for airway control in the patient who is unconscious. Positive-pressure ventilation techniques with a bag-valve-mask device may be beneficial. Monitor cardiac rhythm and treat arrhythmias if necessary. Start an IV with D5W TKO /SRP: To keep open, "minimal flow rate" Ringer's if signs of hypovolemia are present. Watch for signs of fluid overload. For hypotension with signs of hypovolemia, administer fluid cautiously. Consider vasopressors if patient is hypotensive with a normal fluid volume. Watch for signs of fluid overload.

Consider drug therapy for pulmonary edema. Use proparacaine hydrochloride to assist eye irrigation.

5. FIRE-FIGHTING MEASURES

FLASH POINT (Pensky-Martens Closed Cup): 62.8°C (145°F)
AUTOIGNITION TEMPERATURE: Not determined for product. For Mineral Spirits: 245°C (473°F)
FLAMMABLE LIMITS (in air by volume, %): The following values are for the Mineral Spirits component: Lower (LEL): 0.6% Upper (UEL): 6.5%

FIRE EXTINGUISHING MEDIA: Fire extinguishing materials that can be used against fires of this product include carbon dioxide, dry chemical powder, or appropriate foam. Consideration for surrounding materials must be taken into account.

UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.

SPECIAL FIRE AND EXPLOSION HAZARDS: This product is a Class II combustible liquid; it must be heated to a relatively high temperature before ignition can occur. When involved in a fire, this material may ignite and produce irritating vapors and toxic gases (e.g. carbon oxides, aromatic hydrocarbons, reactive hydrocarbons and aldehydes). This product can float on water and may travel to distant locations and/or spread fire. WARNING! By itself, this product will not spontaneously combust, but rags and waste soaked in the product can catch fire when the product dries. The drying reaction is exothermic, and the heat given off in this process can cause the rags, as well as combustible materials such as paper or wood to ignite. See Section 7 (Handling and Storage) for more information.

Explosion Sensitivity to Static Discharge: The vapors of this product may be ignited by static electrical energy.

ADVICE TO FIRE-FIGHTERS: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. Water fog or spray can also be used by trained firefighters to disperse this product’s vapors and to protect personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Trained personnel following pre-planned procedures should handle non-incident releases. In the event of a spill, clear the area and protect people. The atmosphere must have levels of components lower than those listed in Section 8. Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.

METHODS FOR CLEANUP AND CONTAINMENT: Eliminate all sources of ignition before cleanup begins. Use non-sparkling tools.

Small Spills: Wear rubber gloves, splash goggles, and appropriate body protection.
Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.

For large spills, discard contaminated response equipment or rinse with soapy water before returning such equipment to service. Dispose of in accordance with applicable international, national, state, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewer or confined spaces, waterways, soil or public waters. Do not flush to sewer. For spills on water, contain, minimize dispersion and collect.
7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: WARNING! Wadded up and oil soaked paper towels, rags or other combustible materials thrown into the trash pose an extreme fire hazard when placed in trash, or left in a pile and can start a fire. The same is true if the absorbent used to clean up a spill is paper, wood or other combustible material; Do NOT throw in trash. All materials contaminated by this product should be placed in sealed containers and treated as highly flammable. Avoid spontaneous combustion by soaking rags, brushes, rollers, etc. contaminated with this product, in water then place into a sealed metal container before proper disposal. All employees who handle this material should be trained to handle it safely. As with all chemicals, avoid getting this product ON YOU or IN YOU. Use in a well ventilated location. Keep away from heat, sparks, and other sources of ignition. Use non-sparking tools. Open containers slowly on a stable surface. Bond and ground containers during transfers of material. Do not expose containers to extreme temperatures. Avoid breathing airborne mists, sprays, or vapors generated by this product. Wash thoroughly after using this product. Do not eat or drink while using this product. Remove contaminated clothing immediately.

CONDITIONS FOR SAFE STORAGE: Product should be stored in a sealed metal container. Store in a dry location at the recommended temperature of 10-32.2°C (50-90°F). Keep container tightly closed when not in use. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Store away from incompatible materials (see Section 10, Stability and Reactivity). Material should be stored in secondary containers, as appropriate. Containers should be separated from oxidizing materials by a minimum distance of 20 ft. or by a barrier of non-combustible material at least 5 ft. high having a fire-resistance rating of at least 0.5 hours. Storage areas should be made of fire resistant materials. Post warning and “NO SMOKING” signs in storage and use areas, as appropriate. Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Refer to NFPA 30, Flammable and Combustible Liquids Code, for additional information on storage. Empty containers may contain residual liquid or vapors that are flammable; therefore, empty containers should be handled with care. Never perform any welding, cutting, soldering, drilling, or other hot work on an empty container or piping until all liquid, vapors, and residue have been cleared.

SPECIFIC END USE(S): This product is used as a wood stain. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). If necessary, ensure that application equipment is locked and tagged-out safely. Collect all rinsates and properly dispose of according to applicable Federal, State, or local procedures.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided in this section, if applicable. Exhaust directly to the outside, taking necessary precautions for environmental protection. Ensure eyewash/safety shower stations and appropriate fire protection is available near areas where this product is used.

EXPOSURE CONTROLS:

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>ACGIH-TLVs</th>
<th>OSHA-PELs</th>
<th>NIOSH-RELs</th>
<th>NIOSH</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
</tr>
<tr>
<td>Mineral Spirits Exposure limits are for Stoddard Solvent (CAS# 8052-41-3)</td>
<td>Proprietary</td>
<td>525</td>
<td>NE</td>
<td>2500</td>
<td>525 (vacated 1989 PEL)</td>
<td>NE</td>
</tr>
<tr>
<td>Proprietary Vegetable Oil Exposure limits given are for vegetable oil mists</td>
<td>NE</td>
<td>NE</td>
<td>15 (total dust), 5 (resp. fraction)</td>
<td>NE</td>
<td>10 (total dust), 5 (resp. fraction)</td>
<td>NE</td>
</tr>
</tbody>
</table>

NE = Not Established. See Section 16 for Definitions of Terms Used.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below exposure limits listed in this section, if applicable. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations, or the Canadian CSA Standard Z94.4-93. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressuredemand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA’s Respiratory Protection Standard (1910.134-1998). The following are NIOSH respiratory protection guidelines for Stoddard Solvent (a related chemical to the Mineral Spirits component).

STODDARD SOLVENT

CONCENTRATION | RESPIRATORY PROTECTION
Up to 3500 mg/m³: | Any Chemical Cartridge Respirator with organic vapor cartridge(s), or any Supplied-Air Respirator (SAR).
Up to 8750 mg/m³: | Any SAR operated in a continuous-flow mode, or any Powered, Air-Purifying Respirator (PAPR) with organic vapor cartridge(s).
Up to 17,500 mg/m³: | Any Chemical Cartridge Respirator with a full facepiece and organic vapor cartridge(s), or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any Powered, Air-Purifying Respirator (PAPR) with a tight-fitting facepiece and organic vapor cartridge(s), or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece, or any SAR with a full facepiece.
Up to 20,000 mg/m³: | Any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

STODDARD SOLVENT (continued)

CONCENTRATION RESPIRATORY PROTECTION

Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.

Escape: Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any appropriate escape-type, SCBA.


HAND PROTECTION: Wear nitrile rubber gloves or solvex gloves for routine industrial use for routine industrial use. Use triple gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this MSDS. If necessary, refer to U.S. OSHA 29 CFR 1910.138 or appropriate Standards of Canada.

BODY PROTECTION: Use body protection appropriate for task (e.g., coveralls or apron). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee’s feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-M1984, Protective Footwear.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Liquid.
COLOR: Amber; colored, if pigmented.
ODOR: Mild solvent-like.
ODOR THRESHOLD: Not available.
VAPOR PRESSURE: Not tested.
EVAPORATION RATE (n-Butyl Acetate = 1): Not tested.
VISCOSITY DYNAMIC: Not tested.
BOILING POINT: Not tested.
VAPOR DENSITY: Heavier than air.
MELTING/FREEZING POINT: Not tested.
SATURATION VAPOR CONCENTRATION: Not tested.
PH: Not determined.
SPECIFIC GRAVITY @ 15.5°C (water = 1): 90 (wt/gal= 7.53)
VOC (Volatile Organic Carbon) Content in %: Less than 250 g/L
SOLUBILITY IN WATER: Practically insoluble.
SOLUBILITY IN OTHER LIQUIDS: Not tested.
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): For Mineral Oil: Log P(oct) = 3.7-6.7

HOW TO DETECT THIS SUBSTANCE (identification properties): The odor of this product may be a identification property in event of an accidental release.

10. STABILITY and REACTIVITY

REACTIVITY/CHEMICAL STABILITY: Stable under conditions of standard temperature and pressure.
DECOMPOSITION PRODUCTS: Combustion: Carbon oxides, aromatic hydrocarbons, reactive hydrocarbons and aldehydes.
Hydrolysis: None known.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product would be incompatible with strong oxidizing agents.
POSSIBILITY OF HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Avoid exposure or contact to ignition sources, extreme temperatures, incompatible chemicals. See Section 7 (Handling and Storage) for additional cautionary information related to materials contaminated with this product.

PART IV Is there any other useful information about this material?

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product, via route of entry, are as follows:

INHALATION: Inhalation of vapors, mists or sprays from this product can cause mild central nervous system (CNS) depression with symptoms such as nausea, headache, vomiting, dizziness, incoordination and an appearance of drunkenness.

CONTACT WITH SKIN or EYES: Vapors of this product can irritate the eyes. This product will cause immediate pain and severe irritation if splashed into the eyes, causing redness and tearing. Prolonged eye contact may cause corneal clouding or damage. Brief skin contact may be moderately irritating. Prolonged or repeated skin overexposures can cause dermatitis (dry red skin).

SKIN ABSORPTION: The solvent component of this product can be absorbed through intact skin, but is not expected to cause significant adverse effects by this route of exposure.

INGESTION: Ingestion is not anticipated to be a significant route of overexposure for this product. If this product is swallowed, it may irritate the mouth, throat, esophagus and other tissues of the digestive system. Symptoms of ingestion may include vomiting, diarrhea, and nausea. Ingestion may also cause symptoms of depression of the central nervous system, as described under “Inhalation”. If this product is aspirated into the lungs after ingestion, chemical pneumonia and edema (accumulation of fluid in the lungs) may result. Ingestion of large quantities of this product may be fatal.

INJECTION: Injection is not anticipated to be a significant route of overexposure for this product. Injection of this product (via puncture with a contaminated object) can cause pain and irritation, in addition to the wound.
### 11. TOXICOLOGICAL INFORMATION (Continued)

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:** An Explanation in Lay Terms.

**ACUTE:** Overexposures to this product can moderately to severely irritate contaminated eyes. Inhalation and ingestion overexposure can cause depression of the central nervous system. Ingestion may be harmful or fatal and may cause aspiration into the lungs.

**CHRONIC:** Prolonged or repeated skin exposures can cause dermatitis (dry, red skin). Chronic inhalation or ingestion exposure may result in adverse effects on the liver.

**TARGET ORGANS:** ACUTE: Respiratory system, skin, eyes, and central nervous system. CHRONIC: Skin, liver.

**TOXICITY ORGANS:** The specific toxicology data available for components present in greater than 1% concentration are as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Duration</th>
<th>Concentration</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MINERAL SPIRITS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCLo (Inhalation-Rat)</td>
<td>275 mg/m³/6 hours/16 days-intermittent</td>
<td>Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: transaminases</td>
<td>Changes in kidney weight; Related to Chronic Data: changes in testicular weight</td>
<td></td>
</tr>
<tr>
<td>TCLo (Inhalation-Mouse)</td>
<td>1100 mg/m³/91 days-intermittent</td>
<td>Kidney/Ureter/Bladder: changes in kidney weight; Related to Chronic Data: death</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OIL MIXTURE COMPONENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Drai Test (Skin-Human)</td>
<td>300 mg/3 days-intermittent</td>
<td>Moderate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCLo (Oral-Rat)</td>
<td>135 gm/kg/45 days-intermittent</td>
<td>Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: transaminases</td>
<td>Changes in kidney weight; Related to Chronic Data: changes in testicular weight</td>
<td></td>
</tr>
<tr>
<td><strong>MINERAL SPIRITS (continued):</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCLo (Inhalation-Rat)</td>
<td>1100 mg/m³/6 hours/16 days-intermittent</td>
<td>Blood: changes in liver weight; Kidney/Ureter/Bladder: changes in kidney weight; Related to Chronic Data: death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCLo (Inhalation-Mouse)</td>
<td>2200 mg/m³/6 hours/16 days-intermittent</td>
<td>Kidney/Ureter/Bladder: changes in kidney weight; Related to Chronic Data: death</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MINERAL SPIRITS (continued):**

<table>
<thead>
<tr>
<th>Component</th>
<th>Route</th>
<th>Duration</th>
<th>Concentration</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCLo (Inhalation-Rat)</td>
<td>1100 mg/m³/6 hours/16 days-intermittent</td>
<td>Liver: changes in liver weight; Kidney/Ureter/Bladder: changes in kidney weight; Related to Chronic Data: death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCLo (Inhalation-Mouse)</td>
<td>2200 mg/m³/6 hours/16 days-intermittent</td>
<td>Kidney/Ureter/Bladder: changes in kidney weight; Related to Chronic Data: death</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TERATOGENICITY:** This product is not reported to cause teratogenic effects in humans.

**MUTAGENICITY:** This product is not reported to produce mutagenic effects in humans.

**REPRODUCTIVE TOXICITY INFORMATION:** Listed below is information concerning the effects of this product and its components on the human reproductive system

- **Mutagenicity:** This product is not reported to produce mutagenic effects in humans.
- **Embryotoxicity:** This product is not reported to produce embryotoxic effects in humans.
- **Teratogenicity:** This product is not reported to cause teratogenic effects in humans.
- **Reproductive Toxicity:** This product is not reported to cause reproductive effects in humans.

A **mutagen** is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance that interferes in any way with the reproductive process.

**ACGIH BIOLOGICAL EXPOSURE INDICES:** Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components of this product.
12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil, but is expected to be highly mobile.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. Some biodegradation is expected due to the organic oil components.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic toxicity; all release to the environment should be avoided.

OTHER ADVERSE EFFECTS: This product does not contain any component with known ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT/DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate 5-gallon or 55 gallon poly or metal waste pails or drums. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials. Dispose of in accordance with applicable Federal, State, and local procedures and standards.

U.S. EPA WASTE NUMBER: Wastes of this product should be tested for waste characteristic ignitability (D001).

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product can be classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101. NOTE: The classification of Combustible liquid, n.o.s. applies only to shipments of this product via ground within the United States. There is no classification for ‘Combustible Liquid’ under Canadian TDG, IATA or the IMO.

PROPER SHIPPING NAME: Combustible liquid, n.o.s. (mineral spirits, vegetable oils)

HAZARD CLASS NUMBER and DESCRIPTION: Combustible Liquid

UN IDENTIFICATION NUMBER: NA 1993

PACKING GROUP: III

DOT LABEL(S) REQUIRED: No label is required for a material classed as a combustible liquid

SPECIAL PROVISIONS: IB3, T1, T4, TP1

PACKAGING: Exceptions: 150; Non-Bulk: 203; Bulk: 241

QUANTITY LIMITATIONS PASSENGER AIRCRAFT: 60 L

QUANTITY LIMITATIONS CARGO AIRCRAFT: 220 L

VESSEL STORAGE: Location: A; Other: None.

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MARINE POLLUTANT: No component is classified as a Marine Pollutant, per Appendix B to 49 CFR 172.101

This product can be reclassified as an ORM-D material and marked as follows:

PROPER SHIPPING NAME: Consumer Commodity

HAZARD CLASS NUMBER and DESCRIPTION: ORM-D

UN IDENTIFICATION NUMBER: None

PACKING GROUP: None

DOT LABEL(S) REQUIRED: No label is required for ORM-D materials.

SPECIAL PROVISIONS: None

PACKAGING: Exceptions: 150; Non-Bulk: 306; Bulk: None

QUANTITY LIMITATIONS PASSENGER AIRCRAFT: 30 kg gross

QUANTITY LIMITATIONS CARGO AIRCRAFT: 30 kg gross

VESSEL STORAGE: Location: A; Other: None.

ORM-D INFORMATION:

(a) Each non-bulk packaging containing a material classed as ORM–D must be marked on at least one side or end with the ORM–D designation immediately following or below the proper shipping name of the material. The ORM designation must be placed within a rectangle that is approximately 6.3 mm (0.25 inches) larger on each side than the designation. The designation for ORM–D must be:

(1) ORM–D–AIR for an ORM–D that is prepared for air shipment and packaged in accordance with the provisions of 49 CFR § 173.27.

(2) ORM–D for an ORM–D other than as described in paragraph (a)(1) of this section.

(b) When the ORM–D marking including the proper shipping name can not be affixed on the package surface, it may be on an attached tag.

(c) The marking ORM–D is the certification by the person offering the packaging for transportation that the material is properly described, classed, packaged, marked and labeled (when appropriate) and in proper condition for transportation according to the applicable regulations of this subchapter. This form of certification does not preclude the requirement for a certificate on a shipping paper when required by subpart C of this part.

TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.
ADDITIONAL U.S. REGULATIONS:
U.S. SARA REPORTING REQUIREMENTS: The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.
U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.
U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.
U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.
OTHER U.S. FEDERAL REGULATIONS: Not applicable.

ADDITIONAL CANADIAN REGULATIONS:
CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed on the DSL Inventory.
OTHER CANADIAN REGULATIONS: Not applicable.

ADDITIONAL U.S. REGULATIONS:
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS: The components of this product are not on the CEPA Priority Substances Lists.
CANADIAN WHMIS CLASSIFICATION and SYMBOLS:
Class B6: Combustible Liquid
Class D2B: Materials Causing Other Toxic Effects- Irritation

16. OTHER INFORMATION

ANSI LABELING (Z129.1): WARNING! COMBUSTIBLE LIQUID AND VAPOR. WADDED UP AND PRODUCT-SOAKED PAPER TOWELS OR RAGS THROWN INTO THE TRASH OR LEFT IN A PILE CAN START A FIRE. MAY CAUSE MODERATE TO SEVERE EYE IRRITATION. CAUSES SKIN AND RESPIRATORY IRRITATION. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS BY INHALATION OR INGESTION. ASPIRATION HAZARD - INGESTION CAN CAUSE LIFE-THREATENING LUNG DAMAGE. HARMFUL OR FATAL IF INGESTED. Keep away from heat, sparks and flame. Avoid breathing vapor or mists. Avoid contact with skin or clothing. Use only with adequate ventilation. Keep container closed. Wash thoroughly after handling. Wear gloves and goggles.

FIRST-AID: In case of contact, immediately flush skin or eyes for at least 20 minutes with large amounts of water. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If ingested, do not induce vomiting. Get medical attention immediately. IN CASE OF FIRE: Use fog, foam, dry chemical or carbon dioxide. Liquid will float and may re-ignite on the surface of water. IN CASE OF SPILL: Absorb spill with inert material and place in suitable container. Refer to Material Safety Data Sheet for additional information on this product.

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The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Preserva Wood assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Preserva Wood assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

DEFINITIONS OF TERMS
A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

CAS#: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:
CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed humans. 2: Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances which have been shown to induce genetic damage in germ cells of humans or animals, or which produce mutagenic effects in somatic cells of mammals in vivo and have been shown to reach the germ cells in an active form. B: Substances which are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell in vivo; in exceptional cases, substances for which there are no in vivo data, but which are clearly mutagenic in vitro and structurally related to known in vivo mutagens. 4: Not applicable (Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

EXPOSURES LIMITS IN AIR (continued):
DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. Group B: Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. Group C: There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. Group D: No risk of damage to the developing embryo or fetus when MAK and BAT values are observed.

ILDH: Immediately Dangerous to Life and Health: This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

MAK: Federal Republic of Germany Maximum Concentration Values in the workplace.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

14. TRANSPORTATION INFORMATION (Continued)
INTERNATIONAL AIR TRANSPORT ASSOCIATION/ICAO (IATA/ICAO): This product is NOT classified as dangerous goods, per rules of IATA.
INTERNATIONAL MARITIME ORGANIZATION (IMO): This product is NOT classified as Dangerous Goods, per rules of IMO.
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

DEFINITIONS OF TERMS (Continued)
DEFINITIONS OF TERMS (Continued):

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued): 1 Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D. Liquids, solids and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the Method of Testing for Sustained Combustibility, per 49 CFR 173. Appendix H or the UN Recommendation on the Transport of Dangerous Goods, Model Regulations (current edition) and the related Manual of Tests and Criteria (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water-noncombustible liquid/solid content of more than 85 percent by weight. Liquids that have no fire point when tested by ASTM D 92 Standard Test Method for Flash and Fire Points by Cleveland Open Cup, up to a boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. Most ordinary combustible materials. 2 Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures in air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 3 Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IIIB and III C liquids). Materials that, on account of their physical form or environmental conditions, can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with a representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 4 Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that readily undergo violent chemical change at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100 W/mL. 5 Materials that readily undergo violent chemical change at elevated temperatures and pressures: Materials that have a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water-noncombustible liquid/solid content of more than 85 percent by weight. Liquids that have no fire point when tested by ASTM D 92 Standard Test Method for Flash and Fire Points by Cleveland Open Cup, up to a boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. Most ordinary combustible materials. 6 Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100 W/mL. 7 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. 8 Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. 9 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. 10 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation: Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 1000 W/mL. FLAMMABILITY LIMITS IN AIR: Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature - The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: LD₅₀ - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; LC₉₀ - Lethal Concentration (gases) which kills 50% of the exposed animals; ppm concentration expressed in parts of material per million parts of air or water; mg/kg quantity of material, by weight, administered to a test subject, based on their body weight in kg. Human and Animal Toxicology (continued): Other measures of toxicity include TD₅₀, the lowest dose to cause a symptom and TC₉₀ the lowest concentration to cause a symptom; TD₃₀, LD₃₀, and LD₉₀, or TC, TC₉₀, LC₉₀, and LC₉₀, the lowest dose (or concentration) to cause lethal or toxic effects.

Cancer Information: The sources are: IARC - the International Agency for Research on Cancer; NTP - the National Toxicology Program, RTECS - the Registry of Toxic Effects of Chemical Substances, OSHA and CAL/OSHA. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used.

Other Information: BEI - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:

EC is the effect concentration in water. BCF = Bioconcentration Factor, which is used to determine if a substance will concentrate in lifeiforms which consume contaminated plant or animal matter. TL₅₀ - median threshold limit; Coefficient of Oil/Water Distribution is determined by log Kow or log Kan and is used to assess a substance’s behavior in the environment.

REGULATORY INFORMATION:

U.S. and CANADA: ACGIH: American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits. This section explains the impact of various laws and regulations on the material. EPA is the U.S. Environmental Protection Agency. NIOSH is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (OSHA). WHIMS is the Canadian Workplace Hazardous Materials Information System. DOT and TC are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act (SARA); the Canadian Domestic/Non-Domestic Substances List (DSL/NDLS); the U.S. Toxic Substance Control Act (TSCA); Marine Pollutant status according to the DOT; the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund); and various state regulations. This section also includes information on the precautionary warnings which appear on the material’s package label. OSHA - U.S. Occupational Safety and Health Administration.

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