

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards


SDS Revision: 1.2

SDS Revision Date: 3/3/2015

1. PRODUCT & COMPANY IDENTIFICATION

| | | |
|-----|------------------------|--|
| 1.1 | Product Name: | LIQUICELL MEMBRANES |
| 1.2 | Chemical Name: | NA |
| 1.3 | Synonyms: | 94201, 94204, 94100, 94130, 94211 |
| 1.4 | Trade Names: | Liquicell Oval Membranes; CPAP Cushions; Liquicell Membrane; Shear Reducing Interface |
| 1.5 | Product Use: | Reduce shear and friction of the skin |
| 1.6 | Distributor's Name: | Birchwood Laboratories LLC |
| 1.7 | Distributor's Address: | 7900 Fuller Road, Eden Prairie, MN 55344 USA |
| 1.8 | Emergency Phone: | ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (855) 281-1742 |
| 1.9 | Business Phone / Fax: | +1 (952) 937-7968 / +1 (952) 937-7979 |

2. HAZARDS IDENTIFICATION

| | | | |
|-----|---------------------------|---|---|
| 2.1 | Hazard Identification: | This product is classified as a hazardous substance but NOT as dangerous goods according to the classification criteria of [NOHSC: 1088 (2004)] and ADG Code (Australia). WARNING! CAUSES SERIOUS EYE IRRITATION. <u>Hazard Statements</u> (H): H319 – Causes serious eye irritation. <u>Precautionary Statements</u> (P): P264 – Wash thoroughly with soap and water after handling. P280 – Wear eye protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention. |  |
| 2.2 | Effects of Exposure: | <u>Ingestion:</u> If product is swallowed, may cause nausea, vomiting and/or diarrhea and general digestive system discomfort. <u>Eyes:</u> Irritating to the eyes, if Liquicell is ruptured. <u>Skin:</u> Product is applied to skin to reduce shear and friction of the skin. May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact. <u>Inhalation:</u> Unlikely. | |
| 2.3 | Symptoms of Overexposure: | Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering. | |
| 2.4 | Acute Health Effects: | Redness, itching, and irritation of skin at the site of contact for some sensitive individuals. | |
| 2.5 | Chronic Health Effects: | No chronic health effects are known, although symptoms and discomfort may occur for several days following overexposure following ingestion | |
| 2.6 | Target Organs: | Eyes, skin | |

3. COMPOSITION & INGREDIENT INFORMATION


| CHEMICAL NAME(S) | CAS No. | RTECS No. | EINECS No. | % | EXPOSURE LIMITS IN AIR (mg/m ³) | | | | | | | | OTHER |
|-----------------------|------------|-----------|------------|--------|---|------|--------|---------|---------|------|------|------|-------|
| | | | | | ACGIH | | NOHSC | | | OSHA | | | |
| | | | | | ppm | | ppm | | | ppm | | | |
| | | | | | TLV | STEL | ES-TWA | ES-STEL | ES-PEAK | TLV | STEL | IDLH | |
| POLYDIMETHYLSILOXANE | 63148-62-9 | JT6484500 | 213-915-7 | 60-100 | NA | NA | NF | NF | NF | NA | NA | NA | |
| WHITE PAPER ENCLOSURE | NA | NA | NA | NA | NA | NA | NF | NF | NF | NA | NA | NA | |

4. FIRST AID MEASURES

| | | |
|-----|--|--|
| 4.1 | First Aid: | <u>Ingestion:</u> DO NOT INDUCE VOMITING. Contact POISON CONTROL +1 (855) 281-1742 or the nearest or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. <u>Eyes:</u> Flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If irritation persists, seek immediate medical attention. <u>Skin:</u> Remove contaminated clothing and wash affected areas with soap and water. If irritation persists, seek prompt medical attention. Do not wear contaminated clothing until after it has been properly cleaned. <u>Inhalation:</u> Remove victim to fresh air at once. If breathing is difficult, administer supplemental oxygen and seek immediate medical attention. If breathing stops, perform artificial respiration. |
| 4.2 | Medical Conditions Aggravated by Exposure: | Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin, and respiratory system) or impaired kidney function may be more susceptible to the effects of this substance. |

| | |
|-----------------------------|-------------|
| HEALTH | 0 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARDS | 0 |
| PROTECTIVE EQUIPMENT | B |
| EYES | SKIN |

5. FIREFIGHTING MEASURES

| | | | |
|-----|---------------------------|--|---|
| 5.1 | Fire & Explosion Hazards: | Will not burn, but decomposition, which may be caused by heat, will release oxygen which will increase the explosive limit range and burning rate of flammable vapors. As a result of combustion and thermal decomposition, oxidation products may form and exposure to such products may result in health hazards |  |
| 5.2 | Extinguishing Methods: | Water-mist, sand, CO ₂ , dry chemical or other media appropriate for surrounding materials. | |
| 5.3 | Firefighting Procedures: | Fight fires as for surrounding materials. Firefighters should wear a MSHA/NIOSH approved or equivalent self-contained breathing apparatus (SCBA) and protective clothing. Fire should be fought from a safe distance. Keep containers cool until well after the fire is out. Cool containers with water spray to prevent pressure build-up, auto-ignition or explosion. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply, or any natural waterway. | |


6. ACCIDENTAL RELEASE MEASURES

| | | |
|-----|---------|--|
| 6.1 | Spills: | <p>Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment.</p> <p>For <u>small spills</u> (e.g., < 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Remove spilled material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse.</p> <p>For <u>large spills</u> (e.g., ≥ 1 gallon (3.8 L)), deny entry to all unprotected individuals. Dike and contain spill. Transfer to containers for recovery or disposal and diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and water. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.</p> |
|-----|---------|--|

7. HANDLING & STORAGE INFORMATION

| | | |
|-----|---------------------------|---|
| 7.1 | Work & Hygiene Practices: | Avoid eye contact. |
| 7.2 | Storage & Handling: | Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans). Do not store in damaged or unmarked containers or storage devices. Keep containers securely closed when not in use. |
| 7.3 | Special Precautions: | Spilled material may present a slipping hazard if left unattended. Clean all spills promptly. |

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

| | | | |
|-----|-------------------------------------|--|---|
| 8.1 | Ventilation & Engineering Controls: | General mechanical (e.g., fans) or natural ventilation is sufficient when this product is in use. |  |
| 8.2 | Respiratory Protection: | None required if used in a well-ventilated area. | |
| 8.3 | Eye Protection: | Avoid eye contact. Protective eyewear (e.g., safety glasses with side-shield) is recommended at all times when handling this product. Always use protective eyewear when cleaning spills or leaks. | |
| 8.4 | Hand Protection: | None required under normal conditions of use. | |
| 8.5 | Body Protection: | None required under normal conditions of use. | |

9. PHYSICAL & CHEMICAL PROPERTIES

| | | |
|------|---|--|
| 9.1 | Appearance: | White paper on plastic membrane |
| 9.2 | Odor: | neutral |
| 9.3 | Odor Threshold: | NA |
| 9.4 | pH: | NA |
| 9.5 | Melting Point/Freezing Point: | NA |
| 9.6 | Initial Boiling Point/Boiling Range: | > 100 °C (> 212 °F) |
| 9.7 | Flashpoint: | > 238 °C (> 460 °F) Pensky closed cup |
| 9.8 | Upper/Lower Flammability Limits: | NA |
| 9.9 | Vapor Pressure: | NA |
| 9.10 | Vapor Density: | > 1 |
| 9.11 | Relative Density: | 1.1 |
| 9.12 | Solubility: | NA |
| 9.13 | Partition Coefficient (log P _{ow}): | NA |
| 9.14 | Autoignition Temperature: | NA |
| 9.15 | Decomposition Temperature: | NA |
| 9.16 | Viscosity: | NA |
| 9.17 | Other Information: | Evaporation rate < 1 (Ethyl ether = 1) |

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10. STABILITY & REACTIVITY

| | | |
|------|-----------------------------------|--|
| 10.1 | Stability: | This product is stable. |
| 10.2 | Hazardous Decomposition Products: | Thermal decomposition may produce carbon dioxide, carbon monoxide, diphenylmethane diisocyanate, silicone dioxide and other products of incomplete combustion. |
| 10.3 | Hazardous Polymerization: | Will not occur. |
| 10.4 | Conditions to Avoid: | Open flames, sparks, high heat and direct sunlight. |
| 10.5 | Incompatible Substances: | None known or reported. |

11. TOXICOLOGICAL INFORMATION

| | | | | |
|------|------------------------------|---|-----------------|----------------|
| 11.1 | Routes of Entry: | Inhalation: NO | Absorption: YES | Ingestion: YES |
| 11.2 | Toxicity Data: | The product has not been tested on animals to obtain toxicological data. There are toxicology data for the components of this product, which are found in the scientific literature. Polydimethylsiloxane: LD ₅₀ , Oral rat: > 5,000 mg/kg. | | |
| 11.3 | Acute Toxicity: | See section 2.4 | | |
| 11.4 | Chronic Toxicity: | See section 2.5 | | |
| 11.5 | Suspected Carcinogen: | No | | |
| 11.6 | Reproductive Toxicity: | This product is not reported to produce reproductive toxicity in humans. | | |
| | 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 produce teratogenic effects in humans. | | |
| | Reproductive Toxicity: | This product is not reported to produce reproductive effects in humans. | | |
| 11.7 | Irritancy of Product: | See Section 2.3 | | |
| 11.8 | Biological Exposure Indices: | NA | | |
| 11.9 | Physician Recommendations: | Treat symptomatically. | | |

12. ECOLOGICAL INFORMATION

| | | |
|------|------------------------------|--|
| 12.1 | Environmental Stability: | No specific data available. |
| 12.2 | Effects on Plants & Animals: | No specific data available. |
| 12.3 | Effects on Aquatic Life: | There are no specific data available for this product; however, very large releases of this product may be harmful or fatal to overexposed aquatic life. |

13. DISPOSAL CONSIDERATIONS


| | | |
|------|-------------------------|---|
| 13.1 | Waste Disposal: | Dispose of in accordance with Federal, state and local regulations. |
| 13.2 | Special Considerations: | NA |

14. TRANSPORTATION INFORMATION


The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

| | | |
|------|----------------------|---------------|
| 14.1 | 49 CFR (GND): | NOT REGULATED |
| 14.2 | IATA (AIR): | NOT REGULATED |
| 14.3 | IMDG (OCN): | NOT REGULATED |
| 14.4 | TDGR (Canadian GND): | NOT REGULATED |
| 14.5 | ADR/RID (EU): | NOT REGULATED |
| 14.6 | SCT (MEXICO): | NOT REGULATED |
| 14.7 | ADGR (AUS): | NOT REGULATED |



15. REGULATORY INFORMATION

| | | | |
|------|-----------------------------------|---|--|
| 15.1 | SARA Reporting Requirements: | This product does not contain any substances subject to SARA Title III, section 313 reporting requirements. | |
| 15.2 | SARA Threshold Planning Quantity: | There are no specific Threshold Planning Quantities for the components of this product. | |
| 15.3 | TSCA Inventory Status: | The components of this product are listed on the TSCA Inventory. | |
| 15.4 | CERCLA Reportable Quantity (RQ): | NA | |
| 15.5 | Other Federal Requirements: | This material does not contain any hazardous air pollutants. None of the components in this product are listed as priority pollutants under the CWA. None of the components in this product are listed as toxic pollutants under the CWA. | |
| 15.6 | Other Canadian Regulations: | This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDL. None of the components of this product are listed on the Priorities Substances List.  | |
| 15.7 | State Regulatory Information: | Polydimethylsiloxane is found on the following state criteria list: MA, NJ and PA. No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). | |

15. REGULATORY INFORMATION – cont'd

| | | | |
|------|---------------------|--|---|
| 15.8 | Other Requirements: | <p>The primary components of this product are not listed in Annex I of EU Directive 67/548/EEC: Irritant (Xi).</p> <p><u>Risk Phrases (R)</u>: 36 – Harmful if swallowed. Irritating to eyes.</p> <p><u>Safety Phrases (S)</u>: 1/2 -24/25-45 – Keep container locked up and out of reach of children. Avoid contact with skin and eyes. In case of accident or if you feel unwell seek medical advice immediately (show label where possible).</p> <p><u>Poisons Schedule Number</u>: None Allocated.</p> <p><u>HazChem Code</u>: None.</p> |  |
|------|---------------------|--|---|

16. OTHER INFORMATION

| | | | |
|------|----------------------|---|--|
| 16.1 | Other Information: | <p>WARNING! Causes serious eye irritation. Use only as directed. Discontinue use immediately if irritation develops. Avoid contact with skin and eyes. In case of accident or if you feel unwell seek medical advice immediately (show label where possible). KEEP CONTAINER LOCKED UP AND OUT OF REACH OF CHILDREN</p> | |
| 16.2 | Terms & Definitions: | See last page of this Safety Data Sheet. | |
| 16.3 | Disclaimer: | <p>This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & Birchwood Labs' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.</p> | |
| 16.4 | Prepared for: | <p>Birchwood Laboratories LLC 7900 Fuller Road Eden Prairie, MN 55344 USA Tel: +1 (952) 937-7968 Fax: +1 (952) 937-7979 http://www.birchwoodlabs.com</p> |  |
| 16.5 | Prepared by: | <p>ShipMate, Inc. P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com</p> |  |

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DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

| | |
|---------|----------------------------------|
| CAS No. | Chemical Abstract Service Number |
|---------|----------------------------------|

EXPOSURE LIMITS IN AIR:

| | |
|-------|---|
| ACGIH | American Conference on Governmental Industrial Hygienists |
| TLV | Threshold Limit Value |
| OSHA | U.S. Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| IDLH | Immediately Dangerous to Life and Health |

FIRST AID MEASURES:

| | |
|-----|--|
| CPR | Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body. |
|-----|--|

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

| | |
|---|-----------------|
| 0 | Minimal Hazard |
| 1 | Slight Hazard |
| 2 | Moderate Hazard |
| 3 | Severe Hazard |
| 4 | Extreme Hazard |

| |
|---------------------|
| HEALTH |
| FLAMMABILITY |
| PHYSICAL HAZARDS |
| PERSONAL PROTECTION |

PERSONAL PROTECTION RATINGS:

| | | | |
|----------|--|----------|--|
| A | | G | |
| B | | H | |
| C | | I | |
| D | | J | |
| E | | K | |
| F | | X | Consult your supervisor or SOPs for special handling directions. |

| | | | |
|----------------------|-----------------------------------|----------------------------------|---------------------------|
| Safety Glasses | Splash Goggles | Face Shield & Protective Eyewear | Gloves |
| Boots | Synthetic Apron | Protective Clothing & Full Suit | Dust Respirator |
| Full Face Respirator | Dust & Vapor Half-Mask Respirator | Full Face Respirator | Airline Hood/Mask or SCBA |

OTHER STANDARD ABBREVIATIONS:

| | |
|------|------------------------------------|
| NA | Not Available |
| NR | No Results |
| NE | Not Established |
| ND | Not Determined |
| ML | Maximum Limit |
| SCBA | Self-Contained Breathing Apparatus |

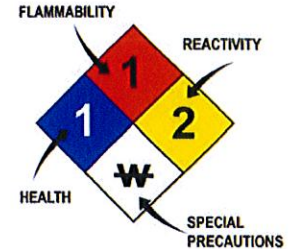
NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

| | |
|--------------------------|---|
| Autoignition Temperature | Minimum temperature required to initiate combustion in air with no other source of ignition |
| LEL | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |
| UEL | Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |

HAZARD RATINGS:

| | |
|---------|-----------------|
| 0 | Minimal Hazard |
| 1 | Slight Hazard |
| 2 | Moderate Hazard |
| 3 | Severe Hazard |
| 4 | Extreme Hazard |
| ACD | Acidic |
| ALK | Alkaline |
| COR | Corrosive |
| W | Use No Water |
| OX | Oxidizer |
| TREFOIL | Radioactive |



TOXICOLOGICAL INFORMATION:

| | |
|--|---|
| LD ₅₀ | Lethal Dose (solids & liquids) which kills 50% of the exposed animals |
| LC ₅₀ | Lethal concentration (gases) which kills 50% of the exposed animal |
| ppm | Concentration expressed in parts of material per million parts |
| TD ₀₁ | Lowest dose to cause a symptom |
| TCLo | Lowest concentration to cause a symptom |
| TD ₀₁ , LD ₀₁ , & LD ₀₂ or TC, TC ₀₁ , LC ₀₁ , & LC ₀₂ | Lowest dose (or concentration) to cause lethal or toxic effects |
| IARC | International Agency for Research on Cancer |
| NTP | National Toxicology Program |
| RTECS | Registry of Toxic Effects of Chemical Substances |
| BCF | Bioconcentration Factor |
| TL _m | Median threshold limit |
| log K _{OW} or log K _{OC} | Coefficient of Oil/Water Distribution |

REGULATORY INFORMATION:

| | |
|-------|--|
| WHMIS | Canadian Workplace Hazardous Material Information System |
| DOT | U.S. Department of Transportation |
| TC | Transport Canada |
| EPA | U.S. Environmental Protection Agency |
| DSL | Canadian Domestic Substance List |
| NDSL | Canadian Non-Domestic Substance List |
| PSL | Canadian Priority Substances List |
| TSCA | U.S. Toxic Substance Control Act |
| EU | European Union (European Union Directive 67/548/EEC) |
| WGK | Wassergefährdungsklassen (German Water Hazard Class) |

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

| | | | | | | | |
|------------|-----------|-----------|----------|------------|------------|-----------|----------|
| | | | | | | | |
| Class A | Class B | Class C | Class D1 | Class D2 | Class D3 | Class E | Class F |
| Compressed | Flammable | Oxidizing | Toxic | Irritation | Infectious | Corrosive | Reactive |

EC (67/548/EEC) INFORMATION:

| | | | | | | | |
|-----------|-----------|-----------|---------|-----------|-------|----------|---------|
| | | | | | | | |
| C | E | F | N | O | T | Xi | Xn |
| Corrosive | Explosive | Flammable | Harmful | Oxidizing | Toxic | Irritant | Harmful |

CLP/GHS (1272/2008/EC) PICTOGRAMS:

| | | | | | | | | |
|-----------|-----------|----------|-------------|-----------|-------|--------------------|---------------|-------------|
| | | | | | | | | |
| GHS01 | GHS02 | GHS03 | GHS04 | GHS05 | GHS06 | GHS07 | GHS08 | GHS09 |
| Explosive | Flammable | Oxidizer | Pressurized | Corrosive | Toxic | Harmful Irritating | Health Hazard | Environment |

1. PRODUCT & COMPANY IDENTIFICATION

| | | |
|-----|------------------------|--|
| 1.1 | Product Name: | AER TRAVELER WITCH HAZEL PAD |
| 1.2 | Chemical Name: | NA |
| 1.3 | Synonyms: | 14325040/5028982240 (Pads) |
| 1.4 | Trade Names: | AER Pre-Moistened Witch Hazel Pads |
| 1.5 | Product Use: | Pre-Moistened Pads |
| 1.6 | Distributor's Name: | Birchwood Laboratories, Inc. |
| 1.7 | Distributor's Address: | 7900 Fuller Road, Eden Prairie, MN 55344 USA |
| 1.8 | Emergency Phone: | ChemTrec +1 (800) 424-9300 / +1 (703) 527-3887 or Poison Control Center +1 (855) 281-1742 |
| 1.9 | Business Phone / Fax: | +1 (952) 937-7968 / +1 (952) 937-7979 |

2. HAZARDS IDENTIFICATION

| | | |
|-----|---------------------------|---|
| 2.1 | Hazard Identification: | <p>This product is classified as a hazardous substance but NOT as dangerous goods according to the classification criteria of [NOHSC: 1088 (2004)] and ADG Code (Australia).</p> <p>WARNING! CAUSES EYE IRRITATION.</p> <p><u>Hazard Statements (H):</u> H320 – Causes eye irritation.</p> <p><u>Precautionary Statements (P):</u> P264 – Wash thoroughly with soap and water. P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 – If eye irritation persists: Get medical advice/attention.</p> |
| 2.2 | Effects of Exposure: | <p><u>Ingestion:</u> If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system depression.</p> <p><u>Eyes:</u> Irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering.</p> <p><u>Skin:</u> May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact.</p> <p><u>Inhalation:</u> Vapors of this product may be slightly irritating to the nose, throat and other tissues of the respiratory system. Symptoms of overexposure can include coughing, wheezing, nasal congestion, and difficulty breathing. Inhalation of vapors exceeding the levels listed in Section 2 (Composition and Ingredient Information) can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea).</p> |
| 2.3 | Symptoms of Overexposure: | Symptoms of skin overexposure in individuals may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering. |
| 2.4 | Acute Health Effects: | Mild to moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea. |
| 2.5 | Chronic Health Effects: | None known. |
| 2.6 | Target Organs: | Eyes, skin and respiratory system. |

3. COMPOSITION & INGREDIENT INFORMATION

| CHEMICAL NAME(S) | CAS No. | RTECS No. | EINECS No. | % | EXPOSURE LIMITS IN AIR (mg/m ³) | | | | | | | | | OTHER |
|--------------------------|--------------------|-----------|------------|-------|---|------|--------|---------|---------|------|------|------|--|-------|
| | | | | | ACGIH | | NOHSC | | | OSHA | | | | |
| | | | | | ppm | | ppm | | | ppm | | | | |
| | | | | | TLV | STEL | ES-TWA | ES-STEL | ES-PEAK | TLV | STEL | IDLH | | |
| WATER | 7732-18-5 | ZC0110000 | 231-791-2 | 30-60 | NA | NA | NF | NF | NF | NA | NA | NA | | |
| WITCH HAZEL SOLUTION | 68916-39-2 | NA | NA | 30-60 | NA | NA | NF | NF | NF | NA | NA | NA | | |
| | Flam. Liq. 3; H226 | | | | | | | | | | | | | |
| GLYCERIN | 56-81-5 | MA8050000 | 200-289-5 | 10-30 | 10 | NA | NF | NF | NF | 5 | NA | NA | | |
| ETHANOL (SD ALCOHOL 40B) | 64-17-5 | KQ6300000 | 200-578-6 | 1-10 | 1000 | 3000 | 1000 | 1800 | NF | 1000 | 1900 | 3300 | | |
| | Flam.Liq.2; H225 | | | | | | | | | | | | | |

4. FIRST AID MEASURES

| | | |
|-----|--|---|
| 4.1 | First Aid: | <p>Ingestion: If swallowed contact physician, the nearest Poison Control Center +1 (855) 281-1742 or local emergency telephone number for assistance and instructions. Seek immediate medical attention. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration.</p> <p>Eyes: If product gets in the eyes, flush eyes thoroughly with copious amounts of water for at least 15 minutes, holding eyelid(s) open to ensure complete flushing. If the eyes or face become swollen during or following use, consult a physician or emergency room immediately.</p> <p>Skin: Remove contaminated clothing and wash affected areas with soap and water. If discomfort persists and/or the skin reaction worsens, contact a physician immediately. Do not wear contaminated clothing until after it has been properly cleaned.</p> <p>Inhalation: Remove victim to fresh air at once. Under extreme conditions, if breathing stops, perform artificial respiration. Seek immediate medical attention.</p> |
| 4.2 | Medical Conditions Aggravated by Exposure: | Pre-existing dermatitis, other skin conditions, and disorders of the target organs (eyes, skin) or impaired kidney function may be more susceptible to the effects of this substance. |

| | |
|-----------------------------|-------------|
| HEALTH | 1 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARDS | 0 |
| PROTECTIVE EQUIPMENT | B |
| EYES | SKIN |

5. FIREFIGHTING MEASURES

| | | | |
|-----|---------------------------|---|--|
| 5.1 | Fire & Explosion Hazards: | DANGER! HIGHLY FLAMMABLE LIQUID AND VAPOR! Keep away from heat, lit cigarettes, sparks & open flame. Keep container closed. | |
| 5.2 | Extinguishing Methods: | CO ₂ , Halon (if permitted), Dry Chemical, Foam, as authorized. | |
| 5.3 | Firefighting Procedures: | This product is a Class IB flammable liquid. When involved in a fire, this product will ignite readily and decompose to produce carbon oxides. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container. First responders should wear eye protection. Structural firefighters must wear SCBAs and full protective equipment. Use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product. | |



6. ACCIDENTAL RELEASE MEASURES

| | | |
|-----|---------|--|
| 6.1 | Spills: | Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective Equipment (PPE). Use safety glasses or safety goggles and face shield; use gloves and other protective clothing (e.g., apron, boots, etc.) to prevent skin contact. <p>Small Spills: Wear appropriate protective equipment including gloves and protective eyewear. Use a non-sparking shovel and broom to pick up the product and place into a container for later disposal.</p> <p>Large Spills: Keep incompatible materials (e.g., organics such as oil, oxidizers) away from spill. Stay upwind and away from spill or release. Isolate immediate hazard area and keep unauthorized personnel out of area. Stop spill or release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant. Recover as much free solid as possible and collect in acid-resistant container. Avoid discharging material directly into a sewer or surface waters.</p> |
|-----|---------|--|

7. HANDLING & STORAGE INFORMATION

| | | |
|-----|---------------------------|---|
| 7.1 | Work & Hygiene Practices: | Avoid breathing powders or dusts. Avoid eye and skin contact. Wear protective equipment when handling product. Keep out of the reach of children. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling. Do not expose to heat and flame. Use only in ventilated areas. Keep out of the reach of children. Immediately clean-up and decontaminate any spills or residues. |
| 7.2 | Storage & Handling: | Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans) away from heat and direct sunlight. Store in acid-resistant containers. Keep containers covered when not in use. Keep away from incompatible substances (see Section 10). Protect containers from physical damage. Store away from strong oxidizers, cyanides and strong reducing agents. |
| 7.3 | Special Precautions: | Empty containers may retain hazardous product residues. |

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

| | | | |
|-----|-------------------------------------|---|---|
| 8.1 | Ventilation & Engineering Controls: | Use local or general exhaust ventilation to effectively remove and prevent buildup of vapors or mist generated from the handling of this product. Ensure appropriate decontamination equipment is available (e.g., sink, safety shower, eye-wash station). | |
| 8.2 | Respiratory Protection: | No special respiratory protection is required under typical circumstances of use or handling. In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia. | |
| 8.3 | Eye Protection: | Wear protective eyewear (e.g., safety glasses with side-shield) at all times when handling this product. Always use protective eyewear when cleaning spills or leaks. Contact lenses pose a special hazard; soft lenses may absorb and concentrate irritants. |  |
| 8.4 | Hand Protection: | If anticipated that prolonged & repeated skin contact will occur during use of this product, wear latex or rubber gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, of the E.C. member states. |  |
| 8.5 | Body Protection: | However, no special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA. | |

9. PHYSICAL & CHEMICAL PROPERTIES

| | | |
|------|---|--|
| 9.1 | Appearance: | White rayon pad moistened with clear solution. |
| 9.2 | Odor: | Mild odor, characteristic of witch hazel solution. |
| 9.3 | Odor Threshold: | NA |
| 9.4 | pH: | 4-5 |
| 9.5 | Melting Point/Freezing Point: | NA |
| 9.6 | Initial Boiling Point/Boiling Range: | > 100 °C (> 212 °F) |
| 9.7 | Flashpoint: | NA |
| 9.8 | Upper/Lower Flammability Limits: | NA |
| 9.9 | Vapor Pressure: | NA |
| 9.10 | Vapor Density: | NA |
| 9.11 | Relative Density: | 1.024 |
| 9.12 | Solubility: | Complete (water) |
| 9.13 | Partition Coefficient (log P _{ow}): | NA |
| 9.14 | Autoignition Temperature: | NA |
| 9.15 | Decomposition Temperature: | NA |
| 9.16 | Viscosity: | NA |
| 9.17 | Other Information: | Volatile by volume > 90%. Evaporation rate < 1 (Ethyl ether = 1) |

10. STABILITY & REACTIVITY

| | | |
|------|-----------------------------------|--|
| 10.1 | Stability: | Stable. |
| 10.2 | Hazardous Decomposition Products: | Thermal decomposition may produce sulfur oxides. |
| 10.3 | Hazardous Polymerization: | Will not occur. |
| 10.4 | Conditions to Avoid: | High temperatures, direct sunlight, sources of heat and incompatible materials. |
| 10.5 | Incompatible Substances: | This product is incompatible with strong oxidizers, (e.g., peroxides, superoxides), strong acids (e.g., hydrochloric or muriatic acids), nitrates, or strong bases (e.g., lye, potassium hydroxide). |

11. TOXICOLOGICAL INFORMATION

| | | | | |
|------|------------------------------|--|-----------------|----------------|
| 11.1 | Routes of Entry: | Inhalation: NO | Absorption: YES | Ingestion: YES |
| 11.2 | Toxicity Data: | This product has NOT been tested on animals to obtain toxicology data. Toxicology data, found in scientific literature, is not presented in this document. | | |
| 11.3 | Acute Toxicity: | See Section 2.4 | | |
| 11.4 | Chronic Toxicity: | See Section 2.5 | | |
| 11.5 | Suspected Carcinogen: | No | | |
| 11.6 | Reproductive Toxicity: | This product is not reported to cause reproductive toxicity in humans. | | |
| | 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. | | |
| 11.7 | Irritancy of Product: | See Section 2.3 | | |
| 11.8 | Biological Exposure Indices: | NE | | |
| 11.9 | Physician Recommendations: | Treat symptomatically. | | |

12. ECOLOGICAL INFORMATION

| | | |
|------|------------------------------|--|
| 12.1 | Environmental Stability: | No specific data available. |
| 12.2 | Effects on Plants & Animals: | No specific data available. |
| 12.3 | Effects on Aquatic Life: | There are no specific data available for this product; however, very large releases of this product may be harmful or fatal to overexposed aquatic life. |

13. DISPOSAL CONSIDERATIONS



| | | |
|------|-------------------------|---|
| 13.1 | Waste Disposal: | Review current local, state and federal laws, codes, statutes and regulations to determine current status and appropriate disposal method for the ingredients listed in Section 2. Any disposal practice must be in compliance with local, state, and federal laws and regulations. Contact the appropriate agency for specific information. Treatment, transport, storage and disposal of hazardous waste must be provided by a licensed facility or waste hauler. |
| 13.2 | Special Considerations: | U.S. EPA Hazardous Waste: D001 (Characteristics – Flammable) |

14. TRANSPORTATION INFORMATION

The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR.

| | | |
|------|----------------------|---------------|
| 14.1 | 49 CFR (GND): | NOT REGULATED |
| 14.2 | IATA (AIR): | NOT REGULATED |
| 14.3 | IMDG (OCN): | NOT REGULATED |
| 14.4 | TDGR (Canadian GND): | NOT REGULATED |
| 14.5 | ADR/RID (EU): | NOT REGULATED |
| 14.6 | SCT (MEXICO): | NOT REGULATED |
| 14.7 | ADGR (AUS): | NOT REGULATED |

15. REGULATORY INFORMATION



| | | |
|------|-----------------------------------|---|
| 15.1 | SARA Reporting Requirements: | This product does not contain any substances subject to SARA Title III reporting requirements. |
| 15.2 | SARA Threshold Planning Quantity: | There are no specific Threshold Planning Quantities for the components of this product. |
| 15.3 | TSCA Inventory Status: | The components of this product are listed on the TSCA Inventory. |
| 15.4 | CERCLA Reportable Quantity (RQ): | <u>Ethanol</u> : 2270 kg (5000 lbs) |
| 15.5 | Other Federal Requirements: | NA |
| 15.6 | Other Canadian Regulations: | This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS Class E (corrosive material). WHMIS Class D2B (materials causing other toxic effects).  |
| 15.7 | State Regulatory Information: | <u>Glycerin</u> is found on the following state criteria lists: MA, MN, PA and WA. <u>Ethanol</u> is found on the following state criteria list: CA, NJ, FL, MA, MN, PA and WA. No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances List (WI). |
| 15.8 | Other Requirements: | The primary components of this product are listed in Annex I of EU Directive 67/548/EEC: <u>Ethanol</u> : Flammable (F) <u>Risk Phrases (R)</u> : 11 – Highly flammable. <u>Safety Phrases (S)</u> : 2-7-16 – Keep away from children. Keep container tightly closed. Keep away from sources of ignition – No smoking.  |

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision: 1.1

SDS Revision Date: 7/23/2014

16. OTHER INFORMATION

| | | | |
|------|----------------------|--|--|
| 16.1 | Other Information: | WARNING! Causes eye irritation. Wash hands and exposed skin areas thoroughly with soap and warm water after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER. IF ON SKIN: Wash with plenty of soap and water. For specific first aid treatment (see section 4 of this Safety Data Sheet). Rinse mouth. Store Locked up. KEEP OUT OF REACH OF CHILDREN. | |
| 16.2 | Terms & Definitions: | See last page of this Safety Data Sheet. | |
| 16.3 | Disclaimer: | This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of ShipMate's & Birchwood Labs' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition. | |
| 16.4 | Prepared for: | Birchwood Laboratories, Inc. 7900 Fuller Road Eden Prairie, MN 55344 USA Tel: +1 (952) 937-7968 Fax: +1 (952) 937-7979 http://www.birchwoodlabs.com |  |
| 16.5 | Prepared by: | ShipMate, Inc. P.O. Box 787 Sisters, Oregon 97759-0787 USA Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com |  <i>Dangerous Goods Training & Consulting</i> |

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision: 1.1

SDS Revision Date: 7/23/2014

DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

GENERAL INFORMATION:

| | |
|---------|----------------------------------|
| CAS No. | Chemical Abstract Service Number |
|---------|----------------------------------|

EXPOSURE LIMITS IN AIR:

| | |
|-------|---|
| ACGIH | American Conference on Governmental Industrial Hygienists |
| TLV | Threshold Limit Value |
| OSHA | U.S. Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| IDLH | Immediately Dangerous to Life and Health |

FIRST AID MEASURES:

| | |
|-----|--|
| CPR | Cardiopulmonary resuscitation - method in which a person whose heart has stopped receives manual chest compressions and breathing to circulate blood and provide oxygen to the body. |
|-----|--|

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

| | |
|---|-----------------|
| 0 | Minimal Hazard |
| 1 | Slight Hazard |
| 2 | Moderate Hazard |
| 3 | Severe Hazard |
| 4 | Extreme Hazard |

| |
|---------------------|
| HEALTH |
| FLAMMABILITY |
| PHYSICAL HAZARDS |
| PERSONAL PROTECTION |

PERSONAL PROTECTION RATINGS:

| | | | |
|----------|--|----------|--|
| A | | G | |
| B | | H | |
| C | | I | |
| D | | J | |
| E | | K | |
| F | | X | Consult your supervisor or SOPs for special handling directions. |

| | | | |
|----------------------|-----------------------------------|----------------------------------|---------------------------|
| Safety Glasses | Splash Goggles | Face Shield & Protective Eyewear | Gloves |
| Boots | Synthetic Apron | Protective Clothing & Full Suit | Dust Respirator |
| Full Face Respirator | Dust & Vapor Half-Mask Respirator | Full Face Respirator | Airline Hood/Mask or SCBA |

OTHER STANDARD ABBREVIATIONS:

| | |
|------|------------------------------------|
| NA | Not Available |
| NR | No Results |
| NE | Not Established |
| ND | Not Determined |
| ML | Maximum Limit |
| SCBA | Self-Contained Breathing Apparatus |

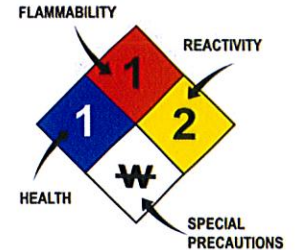
NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

FLAMMABILITY LIMITS IN AIR:

| | |
|--------------------------|---|
| Autoignition Temperature | Minimum temperature required to initiate combustion in air with no other source of ignition |
| LEL | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |
| UEL | Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |

HAZARD RATINGS:

| | |
|---------|-----------------|
| 0 | Minimal Hazard |
| 1 | Slight Hazard |
| 2 | Moderate Hazard |
| 3 | Severe Hazard |
| 4 | Extreme Hazard |
| ACD | Acidic |
| ALK | Alkaline |
| COR | Corrosive |
| W | Use No Water |
| OX | Oxidizer |
| TREFOIL | Radioactive |



TOXICOLOGICAL INFORMATION:

| | |
|--|---|
| LD ₅₀ | Lethal Dose (solids & liquids) which kills 50% of the exposed animals |
| LC ₅₀ | Lethal concentration (gases) which kills 50% of the exposed animal |
| ppm | Concentration expressed in parts of material per million parts |
| TD ₀₁ | Lowest dose to cause a symptom |
| TCLo | Lowest concentration to cause a symptom |
| TD ₀₁ , LD ₀₁ & LD ₀₂ or TC, TC ₀₁ , LC ₀₁ & LC ₀₂ | Lowest dose (or concentration) to cause lethal or toxic effects |
| IARC | International Agency for Research on Cancer |
| NTP | National Toxicology Program |
| RTECS | Registry of Toxic Effects of Chemical Substances |
| BCF | Bioconcentration Factor |
| TL _m | Median threshold limit |
| log K _{OW} or log K _{OC} | Coefficient of Oil/Water Distribution |

REGULATORY INFORMATION:

| | |
|-------|--|
| WHMIS | Canadian Workplace Hazardous Material Information System |
| DOT | U.S. Department of Transportation |
| TC | Transport Canada |
| EPA | U.S. Environmental Protection Agency |
| DSL | Canadian Domestic Substance List |
| NDSL | Canadian Non-Domestic Substance List |
| PSL | Canadian Priority Substances List |
| TSCA | U.S. Toxic Substance Control Act |
| EU | European Union (European Union Directive 67/548/EEC) |
| WGK | Wassergefährdungsklassen (German Water Hazard Class) |

WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

| | | | | | | | |
|------------|-----------|-----------|----------|------------|------------|-----------|----------|
| | | | | | | | |
| Class A | Class B | Class C | Class D1 | Class D2 | Class D3 | Class E | Class F |
| Compressed | Flammable | Oxidizing | Toxic | Irritation | Infectious | Corrosive | Reactive |

EC (67/548/EEC) INFORMATION:

| | | | | | | | |
|-----------|-----------|-----------|---------|-----------|-------|----------|---------|
| | | | | | | | |
| C | E | F | N | O | T | Xi | Xn |
| Corrosive | Explosive | Flammable | Harmful | Oxidizing | Toxic | Irritant | Harmful |

CLP/GHS (1272/2008/EC) PICTOGRAMS:

| | | | | | | | | |
|-----------|-----------|----------|-------------|-----------|-------|--------------------|---------------|-------------|
| | | | | | | | | |
| GHS01 | GHS02 | GHS03 | GHS04 | GHS05 | GHS06 | GHS07 | GHS08 | GHS09 |
| Explosive | Flammable | Oxidizer | Pressurized | Corrosive | Toxic | Harmful Irritating | Health Hazard | Environment |