

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product name: **CHEMLOK 481**  
Product Use/Class: **Adhesive, Part 1 of 2**

LORD Corporation  
111 LORD Drive  
Cary, NC 27511-7923 USA

Telephone: 814 868-3180  
Non-Transportation Emergency: 814 763-2345  
Chemtrec 24 Hr Transportation Emergency No.  
800 424-9300 (Outside Continental U.S. 703 527-3887)

**EFFECTIVE DATE:** 06/04/2019

**2. HAZARDS IDENTIFICATION****GHS CLASSIFICATION:**

Flammable liquids Category 2  
Acute toxicity Inhalation - Vapours Category 4 - 26.3% of the mixture consists of ingredient(s) of unknown toxicity.  
Acute toxicity Inhalation - Dust and Mist Category 4 - 26.3% of the mixture consists of ingredient(s) of unknown toxicity.  
Skin corrosion/irritation Category 2  
Serious eye damage/eye irritation Category 2A  
Skin sensitization Category 1  
Carcinogenicity Category 2  
Reproductive toxicity Category 2  
Specific target organ systemic toxicity (single exposure) Category 1 Central nervous system, Kidney, Liver, Respiratory system  
Specific target organ systemic toxicity (single exposure) Category 3  
Specific target organ systemic toxicity (repeated exposure) Category 1 Central nervous system, Kidney, Nervous system, Respiratory system, Digestive organs, intestinal tract, Stomach  
Specific target organ systemic toxicity (repeated exposure) Category 2 Ears, Liver  
Hazardous to the aquatic environment - acute hazard Category 2  
Hazardous to the aquatic environment - chronic hazard Category 2

**GHS LABEL ELEMENTS:****Symbol(s)****Signal Word**

DANGER

**Hazard Statements**

Highly flammable liquid and vapor.  
Harmful if inhaled.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.  
May cause harm to breast-fed children.  
Causes damage to organs.(Central nervous system, Kidney, Liver, Respiratory system)  
May cause respiratory irritation.

May cause drowsiness or dizziness.

Causes damage to organs through prolonged or repeated exposure.(Central nervous system, Kidney, Nervous system, Respiratory system, Digestive organs, intestinal tract, Stomach)

May cause damage to organs through prolonged or repeated exposure.(Ears, Liver)

Toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

### Precautionary Statements

#### Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/Bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

#### Response

In case of fire: refer to section 5 of SDS for extinguishing media.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF exposed: Call a POISON CENTER or doctor/physician.

Specific treatment (see supplemental first aid instructions on this label).

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Collect spillage.

#### Storage

Store in a well-ventilated place. Keep cool.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

#### Disposal:

Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

#### Other Hazards:

**This product contains component(s) which have the following warnings; however based on the GHS classification criteria of your country or locale, the product mixture may be outside the respective category(s).**

**Acute:** Vapor harmful; may affect the brain or nervous system causing dizziness, headache or nausea. Possible irritation of the respiratory system can occur causing a variety of symptoms such as dryness of the throat, tightness of the chest, and shortness of breath. May cause central nervous system depression characterized by the following progressive steps: headache, dizziness, staggering gait, confusion, unconsciousness or coma. May cause allergic respiratory reaction. May be harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

**Chronic:** May affect the gastrointestinal system. May affect the blood and blood-forming organs. Ethylbenzene has been classified by IARC as a possible human carcinogen (Group 2B) and reported by NTP to show clear evidence for carcinogenicity in animals. Chloroform has been classified by IARC as a possible human carcinogen (Group 2B) and by NTP as a reasonably anticipated human carcinogen.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS Number  | Range       |
|---------------|-------------|-------------|
| Toluene       | 108-88-3    | 55 - 60 %   |
| Xylene        | 1330-20-7   | 10 - 15 %   |
| Acetone       | 67-64-1     | 5 - 10 %    |
| Ethyl benzene | 100-41-4    | 1 - 5 %     |
| Epoxy resin   | PROPRIETARY | 0.1 - 0.9 % |
| Chloroform    | 67-66-3     | 0.1 - 0.9 % |

Any "PROPRIETARY" component(s) in the above table is considered trade secret, thus the specific chemical and its exact concentration is being withheld.

#### 4. FIRST AID MEASURES

**FIRST AID - EYE CONTACT:** Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

**FIRST AID - SKIN CONTACT:** Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

**FIRST AID - INHALATION:** Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

**FIRST AID - INGESTION:** If swallowed, do not induce vomiting. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

#### 5. FIRE-FIGHTING MEASURES

**SUITABLE EXTINGUISHING MEDIA:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

**UNSUITABLE EXTINGUISHING MEDIA:** Not determined for this product.

**SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL:** Flammable liquid and vapor. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, open flame, and other sources of ignition. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

**SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS:** Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). Water spray may be ineffective. If water is used, fog nozzles are preferable.

#### 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Remove all sources of ignition (flame, hot surfaces, and electrical, static or frictional sparks). Avoid contact. Avoid breathing vapors. Use self-contained breathing equipment.

**ENVIRONMENTAL PRECAUTIONS:** Do not contaminate bodies of water, waterways, or ditches, with chemical or used container.

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP:** Keep non-essential personnel a safe distance away from the spill area. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the SDS form. Contain and remove with inert absorbent material and non-sparking tools.

#### 7. HANDLING AND STORAGE

**HANDLING:** Keep closure tight and container upright to prevent leakage. Ground and bond containers when transferring material. Avoid skin and eye contact. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Do not

handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation. Because empty containers may retain product residue and flammable vapors, keep away from heat, sparks and flame; do not cut, puncture or weld on or near the empty container. Do not smoke where this product is used or stored.

**STORAGE:** Do not store or use near heat, sparks, or open flame. Store only in well-ventilated areas. Do not puncture, drag, or slide container. Keep container closed when not in use. Refer to OSHA 29CFR Part 1910.106 "Flammable and Combustible Liquids" for specific storage requirements.

**INCOMPATIBILITY:** Strong oxidizers, acids, bases, water.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### COMPONENT EXPOSURE LIMIT

| <u>Chemical Name</u> | <u>ACGIH TLV-TWA</u> | <u>ACGIH TLV-STEL</u> | <u>OSHA PEL-TWA</u>      | <u>OSHA PEL-CEILING</u> | <u>Skin</u> |
|----------------------|----------------------|-----------------------|--------------------------|-------------------------|-------------|
| Toluene              | 20 ppm               | N.E.                  | 200 ppm                  | 300 ppm                 | N.A.        |
| Xylene               | 100 ppm              | 150 ppm               | 435 mg/m3<br>100 ppm     | N.E.                    | N.A.        |
| Acetone              | 500 ppm              | 750 ppm               | 2,400 mg/m3<br>1,000 ppm | N.E.                    | N.A.        |
| Ethyl benzene        | 20 ppm               | N.E.                  | 435 mg/m3<br>100 ppm     | N.E.                    | N.A.        |
| Epoxy resin          | N.E.                 | N.E.                  | N.E.                     | N.E.                    | N.A.        |
| Chloroform           | 10 ppm               | N.E.                  | N.E.                     | 240 mg/m3<br>50 ppm     | N.A.        |

N.A. - Not Applicable, N.E. - Not Established, S - Skin Designation

**Engineering controls:** Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits. Caution: Solvent vapors are heavier than air and collect in lower levels of the work area. Sufficient ventilation (using explosion-proof equipment) should be provided to prevent flammable vapor/air mixtures from accumulating.

### PERSONAL PROTECTION MEASURES/EQUIPMENT:

**RESPIRATORY PROTECTION:** Use a NIOSH approved chemical/mechanical filter respirator designed to remove a combination of particulates and organic vapor if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. For respirator use observe OSHA regulations (29CFR 1910.134) or use in accordance with applicable laws and regulations of your country or particular locality.

**SKIN PROTECTION:** Use neoprene, nitrile, or rubber gloves to prevent skin contact.

**EYE PROTECTION:** Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

**OTHER PROTECTIVE EQUIPMENT:** Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.

**HYGIENIC PRACTICES:** Wash hands before eating, smoking, or using toilet facility. Do not smoke in any chemical handling or storage area. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Typical values, not to be used for specification purposes.

|                        |                      |                               |                  |
|------------------------|----------------------|-------------------------------|------------------|
| <b>ODOR:</b>           | Solvent              | <b>VAPOR PRESSURE:</b>        | N.D.             |
| <b>APPEARANCE:</b>     | Yellow               | <b>VAPOR DENSITY:</b>         | Heavier than Air |
| <b>PHYSICAL STATE:</b> | Liquid               | <b>LOWER EXPLOSIVE LIMIT:</b> | 1 %(V)           |
| <b>FLASH POINT:</b>    | 41 °F, 5 °C Setflash | <b>UPPER EXPLOSIVE LIMIT:</b> | 13 %(V)          |

|   |                           |                              |                                     |
|---|---------------------------|------------------------------|-------------------------------------|
| <b>BOILING RANGE:</b>                             | Closed Cup<br>56 - 141 °C | <b>EVAPORATION RATE:</b>     | Slower than n-butyl-<br>acetate     |
| <b>AUTOIGNITION TEMPERATURE:</b>                  | N.D.                      | <b>DENSITY:</b>              | 0.9 g/cm <sup>3</sup> - 7.45 lb/gal |
| <b>DECOMPOSITION TEMPERATURE:</b>                 | N.D.                      | <b>VISCOSITY, DYNAMIC:</b>   | ≥400 mPa.s @ 38 °C                  |
| <b>ODOR THRESHOLD:</b>                            | N.D.                      | <b>VISCOSITY, KINEMATIC:</b> | ≥444 mm <sup>2</sup> /s @ 38 °C     |
| <b>SOLUBILITY IN H<sub>2</sub>O:</b>              | Insoluble                 | <b>VOLATILE BY WEIGHT:</b>   | 81.73 %                             |
| <b>pH:</b>  | N.A.                      | <b>VOLATILE BY VOLUME:</b>   | 83.97 %                             |
| <b>FREEZE POINT:</b>                              | N.D.                      | <b>VOC CALCULATED:</b>       | 5.93 lb/gal, 712 g/l                |
| <b>COEFFICIENT OF WATER/OIL<br/>DISTRIBUTION:</b> | N.D.                      |                              |                                     |

**LEGEND:** N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

## 10. STABILITY AND REACTIVITY

**HAZARDOUS POLYMERIZATION:** Hazardous polymerization will not occur under normal conditions.

**STABILITY:** Product is stable under normal storage conditions.

**CONDITIONS TO AVOID:** High temperatures. Sources of ignition.

**INCOMPATIBILITY:** Strong oxidizers, acids, bases, water.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon dioxide, carbon monoxide, chlorine, hydrogen chloride, Phosgene

## 11. TOXICOLOGICAL INFORMATION

**EXPOSURE PATH:** Refer to section 2 of this SDS.

**SYMPTOMS:** Refer to section 2 of this SDS.

**TOXICITY MEASURES:**

| <b>Chemical Name</b> | <b>LD50/LC50</b>   |
|----------------------|--|
| Toluene              | Oral LD50: Rat 2,600 mg/kg<br>Dermal LD50: Rabbit 12,000 mg/kg<br>Inhalation LC50: Rat 12.5 mg/l /4 h                  |
| Xylene               | Oral LD50: Rat 3,500 mg/kg<br>Dermal LD50: Rabbit > 4,350 mg/kg<br>Inhalation LC50: Rat 29.08 mg/l /4 h                |
| Acetone              | Oral LD50: Rat 5,800 mg/kg<br>Dermal LD50: Rabbit > 15,700 mg/kg<br>Inhalation LC50: Rat 50,100 mg/m <sup>3</sup> /8 h |
| Ethyl benzene        | Oral LD50: Rat 3,500 mg/kg<br>Dermal LD50: Rabbit 15,400 mg/kg<br>Inhalation LC50: Rat 17.4 mg/l /4 h                  |
| Epoxy resin          | Oral LD50: Rat 11,400 mg/kg  |
| Chloroform           | Oral LD50: Rat 450 mg/kg<br>Dermal LD50: Rabbit > 20 g/kg<br>Inhalation LC50: Rat 47,702 mg/m <sup>3</sup> /4 h        |

**Germ cell mutagenicity:** No classification proposed

**Carcinogenicity:** Category 2 - Suspected of causing cancer.

Components contributing to classification: Ethyl benzene. Chloroform.

**Reproductive toxicity:** Category 2 - Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.

Components contributing to classification: Toluene. Xylene. Acetone. Ethyl benzene. Chloroform.

**12. ECOLOGICAL INFORMATION**

**ECOTOXICITY:**

| <b>Chemical Name</b> | <b>Ecotoxicity</b>  |
|----------------------|---|
| Toluene              | <p><u>Fish:</u> Pimephales promelas 15.22 - 19.05 mg/196 h flow-through<br/>                     Pimephales promelas 12.6 mg/196 h Static<br/>                     Oncorhynchus mykiss 5.89 - 7.81 mg/196 h flow-through<br/>                     Oncorhynchus mykiss 14.1 - 17.16 mg/196 h Static<br/>                     Oncorhynchus mykiss 5.8 mg/196 h semi-static<br/>                     Lepomis macrochirus 11.0 - 15.0 mg/196 h Static<br/>                     Oryzias latipes 54 mg/196 h Static<br/>                     Poecilia reticulata 28.2 mg/196 h semi-static<br/>                     Poecilia reticulata 50.87 - 70.34 mg/196 h Static<br/> <u>Invertebrates:</u> Daphnia magna 5.46 - 9.83 mg/148 h Static<br/>                     Daphnia magna 11.5 mg/148 h<br/> <u>Plants:</u> Pseudokirchneriella subcapitata &gt; 433 mg/196 h<br/>                     Pseudokirchneriella subcapitata 12.5 mg/172 h Static</p> |
| Xylene               | <p><u>Fish:</u> Pimephales promelas 13.4 mg/196 h flow-through<br/>                     Oncorhynchus mykiss 2.661 - 4.093 mg/196 h Static<br/>                     Oncorhynchus mykiss 13.5 - 17.3 mg/196 h<br/>                     Lepomis macrochirus 13.1 - 16.5 mg/196 h flow-through<br/>                     Lepomis macrochirus 19 mg/196 h<br/>                     Lepomis macrochirus 7.711 - 9.591 mg/196 h Static<br/>                     Pimephales promelas 23.53 - 29.97 mg/196 h Static<br/>                     Cyprinus carpio 780 mg/196 h semi-static<br/>                     Cyprinus carpio &gt; 780 mg/196 h<br/>                     Poecilia reticulata 30.26 - 40.75 mg/196 h Static<br/> <u>Invertebrates:</u> water flea 3.82 mg/148 h<br/>                     Gammarus lacustris 0.6 mg/148 h</p>  |
| Acetone              | <p><u>Fish:</u> Pimephales promelas 6,210 - 8,120 mg/196 h Static<br/>                     Lepomis macrochirus 8,300 mg/196 h<br/> <u>Invertebrates:</u> Daphnia magna 10,294 - 17,704 mg/148 h Static<br/>                     Daphnia magna 12,600 - 12,700 mg/148 h</p>  |
| Ethyl benzene        | <p><u>Fish:</u> Oncorhynchus mykiss 11.0 - 18.0 mg/196 h Static<br/>                     Oncorhynchus mykiss 4.2 mg/196 h semi-static<br/>                     Pimephales promelas 7.55 - 11 mg/196 h flow-through<br/>                     Lepomis macrochirus 32 mg/196 h Static<br/>                     Pimephales promelas 9.1 - 15.6 mg/196 h Static<br/>                     Poecilia reticulata 9.6 mg/196 h Static<br/> <u>Invertebrates:</u> Daphnia magna 1.8 - 2.4 mg/148 h<br/> <u>Plants:</u> Pseudokirchneriella subcapitata 4.6 mg/172 h<br/>                     Pseudokirchneriella subcapitata &gt; 438 mg/196 h<br/>                     Pseudokirchneriella subcapitata 2.6 - 11.3 mg/172 h Static<br/>                     Pseudokirchneriella subcapitata 1.7 - 7.6 mg/196 h Static</p>  |
| Epoxy resin          | <p><u>Invertebrates:</u> Daphnia magna 1.7 mg/148 h</p>   |
| Chloroform           | <p><u>Fish:</u> Pimephales promelas 71 mg/196 h flow-through<br/>                     Oncorhynchus mykiss 18 mg/196 h flow-through<br/>                     Lepomis macrochirus 18 mg/196 h flow-through<br/>                     Poecilia reticulata 300 mg/196 h Static<br/> <u>Invertebrates:</u> Daphnia magna 29 mg/148 h</p>  |

**PERSISTENCE AND DEGRADABILITY:** Not determined for this product.

**BIOACCUMULATIVE:** Not determined for this product.

**MOBILITY IN SOIL:** Not determined for this product.

**OTHER ADVERSE EFFECTS:** Not determined for this product.

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL METHOD:** Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

#### 14. TRANSPORT INFORMATION

##### US DOT Road

**Proper Shipping Name:** Adhesives  
**Hazard Class:** 3  
**SECONDARY HAZARD:** None  
**UN/NA Number:** 1133  
**Packing Group:** II  
**Emergency Response Guide Number:** 128

##### IATA Cargo

**PROPER SHIPPING NAME:** Adhesives  
**Hazard Class:** 3  
**HAZARD CLASS:** None  
**UN NUMBER:** 1133  
**PACKING GROUP:** II  
**EMS:** 3L

##### IMDG

**PROPER SHIPPING NAME:** Adhesives  
**Hazard Class:** 3  
**HAZARD CLASS:** None  
**UN NUMBER:** 1133  
**PACKING GROUP:** II  
**EMS:** F-E

The listed transportation classification applies to non-bulk shipments. It does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors. For the most accurate shipping information, refer to your transportation/compliance department.

#### 15. REGULATORY INFORMATION

##### **U.S. FEDERAL REGULATIONS: AS FOLLOWS:**

##### **SARA SECTION 313**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.:

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Weight % Less Than</u> |
|----------------------|-------------------|---------------------------|
| Toluene              | 108-88-3          | 60.0 %                    |
| Xylene               | 1330-20-7         | 15.0 %                    |
| Ethyl benzene        | 100-41-4          | 5.0 %                     |
| Chloroform           | 67-66-3           | 0.9 %                     |

##### **TOXIC SUBSTANCES CONTROL ACT:**

##### **INVENTORY STATUS**

The chemical substances in this product are on the TSCA Section 8 Inventory.

##### **EXPORT NOTIFICATION**

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

#### 16. OTHER INFORMATION

Under HazCom 2012 it is optional to continue using the HMIS rating system. It is important to ensure employees have been trained to recognize the different numeric ratings associated with the HazCom 2012 and HMIS schemes.

**HMIS RATINGS - HEALTH: 2\* FLAMMABILITY: 3 PHYSICAL HAZARD: 0**

\* - Indicates a chronic hazard; see Section 2

**Revision:** Section 2, Section 9, Section 11

**Effective Date:** 06/04/2019

|                   |
|-------------------|
| <b>DISCLAIMER</b> |
|-------------------|

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.