

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier****Product name** Copper 1**Other means of identification****Product Code(s)** 6446**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory chemicals. Industrial (not for food or food contact use). Use as a laboratory reagent.**Details of the supplier of the safety data sheet****Manufacturer Address**LaMotte Company, Inc.  
802 Washington Avenue  
P.O. Box 329  
Chestertown, MD 21620 USA  
T 410-778-3100  
F 410-778-9748**Emergency telephone numbers**

(CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

**2. HAZARDS IDENTIFICATION**

|                                   |             |
|-----------------------------------|-------------|
| Skin corrosion/irritation         | Category 2  |
| Serious eye damage/eye irritation | Category 2A |

**EMERGENCY OVERVIEW****WARNING****Hazard statements**

Causes skin irritation. Causes serious eye irritation.



**Appearance** Clear, colorless liquid      **Physical state** liquid      **Odor** pungent ammoniacal

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep out of the reach of children.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

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

IF SWALLOWED: Drink 1 or 2 glasses of water. Call a physician immediately.

**Storage:**

Store in a well-ventilated place. Keep cool.

**Other Hazards**

Harmful to aquatic life with long lasting effects.

**3. COMPOSITION/INFORMATION ON INGREDIENTS\***

| Chemical name                                      | CAS #      | Weight-% |
|--|------------|----------|
| Toluene  | 108-88-3   | <0.1     |
| Diethylcarbamodithioic acid sodium salt trihydrate | 20624-25-3 | 1        |
| Ammonium hydroxide (28-30% Ammonia)                | 1336-21-6  | <4       |

**4. FIRST AID MEASURES****First Aid Measures****General advice**

Do not get in eyes, on skin, or on clothing.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice. Immediate medical attention is required.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off

contaminated clothing and wash before reuse. Call a physician immediately.

**Inhalation** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician immediately.

**Ingestion** Do NOT induce vomiting. Rinse mouth. Call a physician or poison control center immediately.

**Self-protection of the first aider** Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

## 5. FIREFIGHTING MEASURES

### **Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), or foam.

### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions** See section 8. Avoid contact with eyes, skin and clothing.

**Environmental precautions** See Section 12 for additional Ecological Information. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### **Methods and material for containment and cleaning up**

**Methods for containment** Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

**Methods for cleaning up** Use personal protective equipment. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Following product recovery, flush area with water.

## 7. HANDLING AND STORAGE

### **Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

### **Conditions for safe storage, including any incompatibilities**

**Storage:** Keep containers tightly closed in a dry, cool and well-ventilated place. Separate from acids and alkalis. Keep out of the reach of children.

**Incompatible Products** Strong acids. Metals. Chlorine.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Control parameters**

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------|-----------|----------|------------|
|---------------|-----------|----------|------------|

|   |             |  |   |
|---|-------------|--|---|
| Toluene<br>108-88-3   | TWA: 20 ppm | TWA: 200 ppm<br>(vacated) TWA: 100 ppm<br>(vacated) TWA: 375 mg/m <sup>3</sup><br>(vacated) STEL: 150 ppm<br>(vacated) STEL: 560 mg/m <sup>3</sup><br>Ceiling: 300 ppm | IDLH: 500 ppm<br>TWA: 100 ppm<br>TWA: 375 mg/m <sup>3</sup><br>STEL: 150 ppm<br>STEL: 560 mg/m <sup>3</sup> |
| Diethylcarbamodithioic acid sodium salt<br>trihydrate<br>20624-25-3 | *-          | *-   | Not Established   |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                    | *-          | 50ppm (NH3)  | Not Established   |

**Appropriate engineering controls****Engineering Measures**

Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment****Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

**Skin and body protection**

Gloves & Lab Coat.

**Respiratory protection**

Use only with adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

|                       |                         |             |                    |
|-----------------------|-------------------------|-------------|--------------------|
| <b>Physical state</b> | liquid                  | <b>Odor</b> | pungent ammoniacal |
| <b>Appearance</b>     | Clear, colorless liquid |             |                    |
| <b>Color</b>          | Clear, colorless        |             |                    |

**Property****Values****Remarks • Method**

|                                       |                                    |  |
|---------------------------------------|------------------------------------|--|
| <b>pH</b>                             | 12                                 |  |
| <b>Melting point / freezing point</b> | No information available           |  |
| <b>Boiling point / boiling range</b>  | ca 100 °C No information available |  |
| <b>Flash point</b>                    | Not Applicable                     |  |
| <b>Evaporation rate</b>               |                                    |  |
| <b>Flammability (solid, gas)</b>      | No information available           |  |
| <b>Flammability Limit in Air</b>      |                                    |  |
| <b>Upper flammability limit:</b>      | No information available           |  |
| <b>Lower flammability limit:</b>      | No information available           |  |
| <b>Vapor pressure</b>                 | No information available           |  |
| <b>Vapor density</b>                  | No information available           |  |
| <b>Specific gravity</b>               | No information available           |  |
| <b>Water solubility</b>               | No information available           |  |
| <b>Solubility in other solvents</b>   | No information available           |  |
| <b>Partition coefficient</b>          | No information available           |  |
| <b>Autoignition temperature</b>       | No information available           |  |
| <b>Decomposition temperature</b>      | No information available           |  |
| <b>Kinematic viscosity</b>            | No information available           |  |
| <b>Dynamic viscosity</b>              | No information available           |  |
| <b>Explosive properties</b>           | No information available           |  |
| <b>Oxidizing properties</b>           | No information available           |  |

**Other Information**

|                        |                          |
|------------------------|--------------------------|
| <b>Softening point</b> | No information available |
|------------------------|--------------------------|

|                         |                          |
|-------------------------|--------------------------|
| <b>Molecular weight</b> | No information available |
| <b>VOC Content (%)</b>  | No information available |
| <b>Density</b>          | No information available |
| <b>Bulk density</b>     | No information available |

## 10. STABILITY AND REACTIVITY

|   |   |
|---|---|
| <b>Stability</b>                        | Stable under recommended storage conditions.                                    |
| <b>Hazardous polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Conditions to avoid</b>              | Excessive heat.   |
| <b>Incompatible materials</b>           | Strong acids. Metals. Chlorine.   |
| <b>Hazardous decomposition products</b> | Ammonia. Nitrogen oxides (NOx). Contact with acid can release carbon disulfide. |

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Component identification

| Chemical name  | ATEmix (oral)        | ATEmix (dermal)          | Inhalation LC50         |
|--|----------------------|--------------------------|-------------------------|
| Toluene<br>108-88-3  | = 2600 mg/kg ( Rat ) | = 12000 mg/kg ( Rabbit ) | = 12.5 mg/L ( Rat ) 4 h |
| Diethylcarbomodithioic acid sodium salt trihydrate<br>20624-25-3 | = 1500 mg/kg ( Rat ) | > 1 g/kg ( Rat )         | Not Established         |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | = 350 mg/kg ( Rat )  | Not Established          | Not Established         |

#### Information on toxicological effects

| Chemical name  | ACGIH           | IARC            | NTP             | OSHA            |
|--|-----------------|-----------------|-----------------|-----------------|
| Toluene<br>108-88-3  | Not Established | Group 3         | Not Established | Not Established |
| Diethylcarbomodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established | Group 3         | Not Established | Not Established |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | Not Established | Not Established | Not Established | Not Established |

**ATEmix (oral)** 20,192.00 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic life with long lasting effects

| Chemical name       | Toxicity to Algae  | Toxicity to Fish  | Daphnia Magna (Water Flea)   |
|---------------------|--|---|--|
| Toluene<br>108-88-3 | 12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static<br>433: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static<br>14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static<br>15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through<br>5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through<br>50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static<br>12.6: 96 h Pimephales promelas mg/L LC50 static<br>28.2: 96 h Poecilia reticulata mg/L LC50 semi-static<br>5.8: 96 h Oncorhynchus mykiss | 5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static<br>11.5: 48 h Daphnia magna mg/L EC50 |

|  |                 |  |  |
|--|-----------------|--|--|
|  |                 | mg/L LC50 semi-static 54: 96 h<br>Oryzias latipes mg/L LC50 static |  |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established | Not Established  | Not Established  |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | Not Established | 8.2: 96 h Pimephales promelas<br>mg/L LC50                         | 0.66: 48 h Daphnia pulex mg/L<br>EC50 0.66: 48 h water flea mg/L<br>EC50 |

**Persistence and degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

| Chemical name  | Log Pow         |
|--|-----------------|
| Toluene<br>108-88-3  | 2.65            |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | Not Established |

### 13. DISPOSAL CONSIDERATIONS

**Disposal Methods**

Dispose of waste product or used containers according to local regulations.

**Contaminated packaging**

Do not reuse empty containers.

| Chemical name  | RCRA            | RCRA - Basis for Listing   | RCRA - D Series Wastes | RCRA - U Series Wastes |
|--|-----------------|--|------------------------|------------------------|
| Toluene<br>108-88-3  | U220            | Included in waste streams:<br>F005, F024, F025, F039,<br>K015, K036, K037, K149,<br>K151 | Not Established        | U220                   |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established | -  | Not Established        | Not Established        |
| Ammonium hydroxide<br>(28-30% Ammonia)<br>1336-21-6              | Not Established | -  | Not Established        | Not Established        |

| Chemical name  | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes   | RCRA - K Series Wastes |
|--|--------------------------------------|------------------------|--|------------------------|
| Toluene<br>108-88-3  | Not Established                      | Not Established        | Toxic waste<br>waste number F025<br>Waste description:<br>Condensed light ends, spent<br>filters and filter aids, and<br>spent desiccant wastes from<br>the production of certain<br>chlorinated aliphatic<br>hydrocarbons, by free<br>radical catalyzed processes.<br>These chlorinated aliphatic<br>hydrocarbons are those<br>having carbon chain lengths<br>ranging from one to and<br>including five, with varying<br>amounts and positions of<br>chlorine substitution. | Not Established        |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established                      | Not Established        | Not Established  | Not Established        |
| Ammonium hydroxide<br>(28-30% Ammonia)<br>1336-21-6              | Not Established                      | Not Established        | Not Established  | Not Established        |

| Chemical name  | California Hazardous Waste Status |
|--|-----------------------------------|
| Toluene<br>108-88-3  | Toxic<br>Ignitable                |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | *-                                |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | Toxic<br>Corrosive                |

#### 14. TRANSPORT INFORMATION

|                 |               |
|-----------------|---------------|
| <b>DOT</b>      | Not regulated |
| <b>TDG</b>      | Not regulated |
| <b>MEX</b>      | Not regulated |
| <b>ICAO</b>     | Not regulated |
| <b>IATA</b>     | Not regulated |
| <b>IMDG/IMO</b> | Not regulated |
| <b>RID</b>      | Not regulated |
| <b>ADR</b>      | Not regulated |
| <b>ADN</b>      | Not regulated |

#### 15. REGULATORY INFORMATION

##### International Inventories

|                      |                 |
|----------------------|-----------------|
| <b>TSCA</b>          | Complies        |
| <b>DSL/NDL</b>       | Does not comply |
| <b>EINECS/ELINCS</b> | Does not comply |
| <b>ENCS</b>          | Does not comply |
| <b>IECSC</b>         | Complies        |
| <b>KECL</b>          | Does not comply |
| <b>PICCS</b>         | Complies        |
| <b>AICS</b>          | Complies        |

##### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

##### US Federal Regulations

##### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical name  | SARA 313 - Threshold Values % |
|--|-------------------------------|
| Toluene<br>108-88-3  | 1.0                           |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established               |
| Ammonium hydroxide (28-30% Ammonia)                              | 1.0                           |

1336-21-6

**SARA 311/312 Hazard Categories**

|                                   |     |
|-----------------------------------|-----|
| Acute health hazard               | Yes |
| Chronic Health Hazard             | No  |
| Fire hazard                       | No  |
| Sudden release of pressure hazard | No  |
| Reactive Hazard                   | No  |

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical name  | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|--|-----------------------------|------------------------|---------------------------|----------------------------|
| Toluene<br>108-88-3  | 1000 lb                     | X                      | X                         | X                          |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established             | Not Established        | Not Established           | Not Established            |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | 1000 lb                     | Not Established        | Not Established           | X                          |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical name  | Hazardous Substances RQs | CERCLA/SARA RQ  | RQ   |
|--|--------------------------|-----------------|--|
| Toluene<br>108-88-3  | 1000 lb 1 lb             | Not Established | RQ 1000 lb final RQ<br>RQ 454 kg final RQ RQ 1 lb final RQ<br>RQ 0.454 kg final RQ |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | *-                       | Not Established | -  |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | 1000 lb                  | Not Established | RQ 1000 lb final RQ<br>RQ 454 kg final RQ  |

**US State Regulations****California Proposition 65**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

| Chemical name  | California Proposition 65 |
|--|---------------------------|
| Toluene<br>108-88-3  | Developmental             |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established           |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | Not Established           |

**U.S. State Right-to-Know Regulations**

| Chemical name  | New Jersey      | Massachusetts   | Pennsylvania    |
|--|-----------------|-----------------|-----------------|
| Toluene<br>108-88-3  | X               | X               | X               |
| Diethylcarbamodithioic acid sodium salt trihydrate<br>20624-25-3 | Not Established | Not Established | Not Established |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6                 | X               | X               | X               |

**CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**

| Chemical name | CPSC (Consumer Product Safety Commission) - Specially Regulated Substances |
|---------------|--|
| Toluene       | Special labeling, 16 CFR 1500.14   |



|  |                                      |
|--|--------------------------------------|
| 108-88-3   |                                      |
| Ammonium hydroxide (28-30% Ammonia)<br>1336-21-6 | Add POISON to label, 16 CFR 1500.129 |
| <b>16. OTHER INFORMATION</b>                     |                                      |

**NFPA**                      Health hazard 1                      Flammability 0                      Instability 0                      Physical and Chemical Hazards N/A

**HMIS**                      Health hazard 1                      Flammability 0                      Stability 0



|               |          |
|---------------|----------|
| Health Hazard | <b>1</b> |
| Fire Hazard   | <b>0</b> |
| Reactivity    | <b>0</b> |

**Prepared by** Regulatory Affairs Department  
**Issuing Date** Jun-20-2017  
**Revision Date** Sep-21-2015  
**Reason for revision** New GHS format  
**Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**