1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Thinner for Conductive Silver Paint
Product Number: 60806
CAS-No.: 123-86-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the material on the safety data sheet

Company: Ladd Research
83 Holly Court
Williston, VT 05495
USA
Telephone: 802-658-4961
Fax: 802-660-8859

1.4 Emergency telephone number

Emergency Phone #: +1-703-741-5500 (Chemtrec)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)
H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H402 Harmful to aquatic life.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/ eye protection/ face protection.

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

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

P501

Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Repeated exposure may cause skin dryness or cracking.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>C₆H₁₂O₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>116.16 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>123-86-4</td>
</tr>
<tr>
<td>EC-No.</td>
<td>204-658-1</td>
</tr>
<tr>
<td>Index-No.</td>
<td>607-025-00-1</td>
</tr>
</tbody>
</table>

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl acetate</td>
<td>Flam. Liq. 3; STOT SE 3; Aquatic Acute 3; H226, H336, H402</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available
5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSOANAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>n-Butyl acetate</td>
<td>123-86-4</td>
<td>TWA</td>
<td>150 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td>Eye irritation</td>
</tr>
<tr>
<td>TWA</td>
<td></td>
<td></td>
<td>150.000000 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td>Eye irritation</td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>200 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
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<tr>
<td>---</td>
<td>------</td>
<td>---------</td>
<td>----------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper Respiratory Tract irritation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Eye irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL</td>
<td>200.000000 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Eye irritation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>150.000000 ppm</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>710.000000 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The value in mg/m3 is approximate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>150.000000 ppm</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>710.000000 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>200.000000 ppm</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>950.000000 mg/m3</td>
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<td></td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

**Eye/face protection**
- Face shield and safety glasses
  Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
- Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Splash contact**
- Material: Nitrile rubber
- Minimum layer thickness: 0.4 mm
- Break through time: 30 min
- Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
- If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
- Impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
- Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.
- If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: liquid
   Colour: colourless

b) Odour
   like fruit

c) Odour Threshold
   No data available

d) pH
   6.2 at 5 g/l at 20 °C (68 °F)

e) Melting point/freezing point
   Melting point/range: -78 °C (-108 °F) - lit.

f) Initial boiling point and boiling range
   124 - 126 °C (255 - 259 °F) - lit.

g) Flash point
   23 °C (73 °F) - closed cup

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 7.6 % (V)
   Lower explosion limit: 1.7 % (V)

k) Vapour pressure
   20 hPa (15 mmHg) at 25 °C (77 °F)

l) Vapour density
   4.01 - (Air = 1.0)

m) Relative density
   0.88 g/cm3 at 25 °C (77 °F)

n) Water solubility
   5.3 g/l at 20 °C (68 °F) - OECD Test Guideline 105

o) Partition coefficient: n-octanol/water
   log Pow: 1.82

p) Auto-ignition temperature
   No data available

q) Decomposition temperature
   No data available

r) Viscosity
   No data available

s) Explosive properties
   No data available

t) Oxidizing properties
   No data available

9.2 Other safety information

Surface tension
   14.5 mN/m at 25 °C (77 °F)

Relative vapour density
   4.01 - (Air = 1.0)

10. STABILITY AND REACTIVITY

10.1 Reactivity
   No data available

10.2 Chemical stability
   Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
   Vapours may form explosive mixture with air.

10.4 Conditions to avoid
   Heat, flames and sparks.
10.5 **Incompatible materials**  
Strong oxidizing agents, Strong reducing agents, Strong bases

10.6 **Hazardous decomposition products**  
Other decomposition products - No data available  
In the event of fire: see section 5

---

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity**
- LD50 Oral - Rat - 10,700 - 14,130 mg/kg
- LC50 Inhalation - Rat - 4 h - > 21.0 mg/l
- LD50 Dermal - Rabbit - 17,600 mg/kg

No data available

**Skin corrosion/irritation**
- Skin - Rabbit  
  Result: No skin irritation - 4 h  
  (OECD Test Guideline 404)

**Serious eye damage/eye irritation**
- Eyes - Rabbit  
  Result: No eye irritation  
  (OECD Test Guideline 405)

**Respiratory or skin sensitisation**
No data available

**Germ cell mutagenicity**
No data available

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

**IARC:**  
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:**  
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:**  
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:**  
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
No data available

No data available

**Specific target organ toxicity - single exposure**
May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available
Additional Information
RTECS: AF7350000
Drowsiness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish
LC50 - Lepomis macrochirus (Bluegill) - 100 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 72.8 - 205.0 mg/l - 24 h
EC50 - Daphnia (water flea) - 44 mg/l - 48 h
Toxicity to algae
EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - 674.7 mg/l - 72 h

12.2 Persistence and degradability
Biodegradability Result: Readily biodegradable

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1123 Class: 3 Packing group: III
Proper shipping name: Butyl acetates Reportable Quantity (RQ): 5000 lbs
Poison Inhalation Hazard: No

IMDG
UN number: 1123 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: BUTYL ACETATES

IATA
UN number: 1123 Class: 3 Packing group: III
Proper shipping name: Butyl acetates

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl acetate</td>
<td>123-86-4</td>
<td>1993-04-24</td>
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</table>

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-Butyl acetate</td>
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<td>1993-04-24</td>
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</table>

New Jersey Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
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<tbody>
<tr>
<td>n-Butyl acetate</td>
<td>123-86-4</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute: Acute aquatic toxicity
Flam. Liq.: Flammable liquids
H226: Flammable liquid and vapour.
H336: May cause drowsiness or dizziness.
H402: Harmful to aquatic life.
STOT SE: Specific target organ toxicity - single exposure

HMIS Rating
Health hazard: 0
Chronic Health Hazard: *
Flammability: 3
Physical Hazard: 0

NFPA Rating
Health hazard: 1
Fire Hazard: 3
Reactivity Hazard: 0

Disclaimer
The information presented is believed to be correct and is the most accurate information available to us at this time. However, Ladd Research makes no warranty, express or implied, and assumes no liability for this information and the product described herein.

Date Prepared: 04/15/2020