SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form: Mixture
Trade name: Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °C)

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Temperature indicator

1.3. Details of the supplier of the safety data sheet
LA-CO Industries, Inc.
1201 Pratt Boulevard
Elk Grove Village, IL  60007-5746
Phone: (847) 956-7600
Fax: (847) 956-9885
E-mail: customer_service@laco.com

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification in accordance with the Globally Harmonized Standard
Muta. 2    H341
Carc. 1B   H350
Repr. 2    H361
Full text of H-statements: see section 16

2.2. Label elements

GHS labelling
Hazard pictograms (GHS) : GHS08
Signal word (GHS) : Danger
Hazard statements (GHS) : H341 - Suspected of causing genetic defects
                          : H350 - May cause cancer
                          : H361 - Suspected of damaging fertility or the unborn child
Precautionary statements (GHS) : P201 - Obtain special instructions before use
                                 : P202 - Do not handle until all safety precautions have been read and understood
                                 : P280 - Wear protective clothing, protective gloves
                                 : P308+P313 - If exposed or concerned: Get medical advice/attention
                                 : P405 - Store locked up
                                 : P501 - Dispose of contents/container to an authorised waste collection point

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable
3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier (CAS No)</th>
<th>% (w/w)</th>
<th>GHS classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein</td>
<td>77-09-8</td>
<td>96.66 : 488 °F, 482 °F 98.04 : 500 °F</td>
<td>Mut. 2, H341 Carc. 1B, H350 Rep. 2, H361</td>
</tr>
<tr>
<td>1,1,1 Tris Ethane</td>
<td>27955-94-8</td>
<td>1.86 : 488 °F, 482 °F</td>
<td>Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general: Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact: Gently wash with plenty of soap and water.
First-aid measures after eye contact: Rinse cautiously with water for several minutes.
First-aid measures after ingestion: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries: Suspected of causing genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture
Fire hazard: No specific fire or explosion hazard. Burning produces irritating, toxic and noxious fumes.
Reactivity: No dangerous reactions known.

5.3. Advice for firefighters
Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Avoid creating or spreading dust. Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel
Protective equipment: Wear suitable protective clothing and gloves.
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Wear suitable protective clothing and gloves.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Avoid generating dust. Contain and collect as any solid.
Methods for cleaning up: Minimize generation of dust. On land, sweep or shovel into suitable containers.

6.4. Reference to other sections
Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.
SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. Avoid breathing dust, fume.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed.
Incompatible products: Strong oxidizers. Strong bases.
Prohibitions on mixed storage: Keep away from incompatible materials.
Storage area: Store in dry, cool, well-ventilated area.

7.3. Specific end use(s)
Temperature indicator.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °C)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Phenolphthalein (77-09-8)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Ensure good ventilation of the work station.

Personal protective equipment: Avoid all unnecessary exposure.
Hand protection: Wear dust impervious gloves.
Eye protection: In case of dust production: protective goggles.
Skin and body protection: Long sleeved protective clothing.
Respiratory protection: In case of inadequate ventilation wear respiratory protection. Use air-purifying respirator equipped with particulate filtering cartridges.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>A solid crayon-like marker.</td>
</tr>
<tr>
<td>Colour</td>
<td>Variable.</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reactions known.

10.2. Chemical stability
The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Keep away from incompatible materials. Avoid dust formation.

10.5. Incompatible materials
Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products
Thermal decomposition generates: Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Phenolphthalein (77-09-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1,1,1 Tris Ethane (27955-94-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg bodyweight</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Suspected of causing genetic defects.
Carcinogenicity: May cause cancer.

<table>
<thead>
<tr>
<th>Phenolphthalein (77-09-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
<td>2B - Possibly carcinogenic to humans</td>
</tr>
<tr>
<td>National Toxicology Program (NTP) Status</td>
<td>3 - Reasonably anticipated to be Human Carcinogen</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified

Potential adverse human health effects and symptoms
Likely routes of exposure: Inhalation; Skin and eye contact

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Phenolphthalein (77-09-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 100 mg/l</td>
</tr>
</tbody>
</table>
12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
<th>Biodegradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>Not readily biodegradable.</td>
<td>8 %</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Log Kow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein (77-09-8)</td>
<td>2.4</td>
</tr>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>3.88</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

<table>
<thead>
<tr>
<th>Disposal method</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage disposal recommendations</td>
<td>Do not dispose of waste into sewer.</td>
</tr>
<tr>
<td>Waste disposal recommendations</td>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
</tr>
</tbody>
</table>

SECTION 14: Transport information

In accordance with DOT and TDG

<table>
<thead>
<tr>
<th>Mode of transport</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not considered a dangerous good for transport regulations</td>
<td></td>
</tr>
<tr>
<td>Proper Shipping Name (ADR)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>TSCA Regulatory Flag</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>P - P - indicates a commenced PMN substance.</td>
</tr>
<tr>
<td>Phenolphthalein (77-09-8)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSCA regulatory flag</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TSCA regulatory flag</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA

<table>
<thead>
<tr>
<th>Substance</th>
<th>Domestic Substances List inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein (77-09-8)</td>
<td>Listed on the Canadian DSL (Domestic Substances List) inventory.</td>
</tr>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>Listed on the Canadian NDSL (Non-Domestic Substances List)</td>
</tr>
</tbody>
</table>

EU-Regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenolphthalein (77-09-8)</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>1,1,1 Tris Ethane (27955-94-8)</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
</tbody>
</table>

National regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °C)</td>
<td>All components are listed on the EEC inventory European Inventory of Existing Commercial Chemical Substances (EINECS).itative ingredients are listed on the Toxic Substances Control Act (TSCA).</td>
</tr>
<tr>
<td>All ingredients are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).</td>
<td></td>
</tr>
</tbody>
</table>
15.3. US State regulations

<table>
<thead>
<tr>
<th>Phenolphthalein (77-09-8)</th>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phenolphthalein (77-09-8)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Indication of changes

- Added product

Data sources:
- ACGIH (American Conference of Governmental Industrial Hygienists)

Abbreviations and acronyms:
- ATE: Acute Toxicity Estimate. CAS (Chemical Abstracts Service) number.
- CLP: Classification, Labelling, Packaging.
- EC50: Environmental Concentration associated with a response by 50% of the test population.
- GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
- LD50: Lethal Dose for 50% of the test population.
- OSHA: Occupational Safety & Health Administration.
- PBT: Persistent, Bioaccumulative, Toxic.
- TWA: Time Weight Average.
- TSCA: Toxic Substances Control Act.

Other information:

- None.

NFPA health hazard:

1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard:

1 - Must be preheated before ignition can occur.

NFPA reactivity:

0 - Normally stable, even under fire exposure conditions, and not reactive with water.

Full text of H-statements:

- Aquatic Chronic 2: Hazardous to the aquatic environment — Chronic Hazard, Category 2
- Carc. 1B: Carcinogenicity, Category 1B
- Muta. 2: Germ cell mutagenicity, Category 2
- Repr. 2: Reproductive toxicity, Category 2
- H341: Suspected of causing genetic defects
- H350: May cause cancer
- H361: Suspected of damaging fertility or the unborn child
- H411: Toxic to aquatic life with long lasting effects

SDS Prepared by: The Redstone Group, LLC
6077 Frantz Rd.
Suite 206
Dublin, OH USA 43016
T 614-923-7472
www.redstonegrp.com

LACO NA GHS SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.