Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)
Date of issue: 03/10/2015
Version: 1.0

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

1.1. Product identifier
Product form: Mixture
Trade name: Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °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
Acute Tox. 4 (Oral) H302
Acute Tox. 3 (Dermal) H311
Acute Tox. 4 (Inhalation:dust,mist) H332
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Aquatic Chronic 3 H412

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) :
H302+H332 - Harmful if swallowed or if inhaled
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS-US) :
P261 - Avoid breathing dust, fume
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear eye protection, protective clothing, protective gloves
P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER, a doctor if you feel unwell
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
P332+P313 - If skin irritation occurs: Get medical advice/attention
Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canadian Hazardous Products Regulations (HPR)

10/03/2015 EN (English) SDS Ref.: LACO1409016 2/8

P337+P313 - If eye irritation persists: Get medical advice/attention
P361 - Take off immediately all contaminated clothing
P362 - Take off contaminated clothing and wash before reuse
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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</th>
<th>% (w/w)</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>benzimidazole-2-thiol</td>
<td>(CAS No) 583-39-1</td>
<td>70.18</td>
<td>Acute Tox. 3 (Oral), H301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (Dermal), H311</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Inhalation), H332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irr. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3, H412</td>
</tr>
<tr>
<td>adipic acid</td>
<td>(CAS No) 124-04-9</td>
<td>10.11</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

Full text of H-phrases: 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. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: 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.

First-aid measures after skin contact: Immediately call a POISON CENTER or doctor/physician. Remove Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get immediate medical advice/attention.

First-aid measures after eye contact: 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.

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 after inhalation: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.

Symptoms/injuries after skin contact: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.

Symptoms/injuries after eye contact: Causes serious eye irritation.

Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

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

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard: No specific fire or explosion hazard.

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 fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus.
Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)

SECTION 6: Accidental release measures

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

6.1.1. For non-emergency personnel
Protective equipment : Chemical goggles or safety glasses. protective gloves. In case of inadequate ventilation wear respiratory protection.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment : Chemical goggles or safety glasses. Use neoprene or rubber gloves. Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment.
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 : Contain and collect as any solid. Avoid generating dust.
Methods for cleaning up : Take up in non-combustible absorbent material and shove into container for disposal. Minimize generation of dust.

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 : Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume.
Hygiene measures : Do not eat, drink or smoke when using this product. 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 : Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

7.3. Specific end use(s)
Temperature indicator.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
<table>
<thead>
<tr>
<th>Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>OSHA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>adipic acid (124-04-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>OSHA</td>
</tr>
<tr>
<td>Canada (Quebec)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>benzimidazole-2-thiol (583-39-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>OSHA</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). Either local exhaust or general room ventilation is usually required.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : Wear suitable gloves resistant to chemical penetration. Dust impervious gloves.
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>Gray</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>302 °C / 575 °F</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>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

VOC content: 0 %

Section 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Avoid creating or spreading dust. Contact with incompatible materials.

10.5. Incompatible materials


10.6. Hazardous decomposition products


Section 11: Toxicological information

11.1. Information on toxicological effects

Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)

Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

| ATE CLP (oral) | 310.650 mg/kg bodyweight |
| ATE CLP (dermal) | 712.500 mg/kg bodyweight |
| ATE CLP (dust,mist) | 2.138 mg/l/4h |

Adipic acid (124-04-9)

| LD50 oral rat | 5560 mg/kg |
| LD50 dermal rabbit | 7940 ml/kg |
| LC50 inhalation rat (mg/l) | > 7.7 mg/l/4h |
| ATE CLP (oral) | 5560.000 mg/kg bodyweight |

Benzimidazole-2-thiol (583-39-1)

| LD50 oral rat | 218 mg/kg |
| LD50 dermal rabbit | 500 mg/kg |
| LC50 inhalation rat (ppm) | 14.22252 ppm/4h |
| ATE CLP (oral) | 218.000 mg/kg bodyweight |
| ATE CLP (dermal) | 500.000 mg/kg bodyweight |
| ATE CLP (gases) | 14.223 ppmv/4h |
| ATE CLP (vapours) | 11.000 mg/l/4h |
| ATE CLP (dust,mist) | 1.500 mg/l/4h |

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified

Adipic acid (124-04-9)

| NOAEL (oral, rat, 90 days) | 750 mg/kg bodyweight/day |

Aspiration hazard: Not classified

Potential adverse human health effects and symptoms

Symptoms/injuries after inhalation: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/injuries after skin contact: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact: Causes serious eye irritation.
Symptoms/injuries after ingestion: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.
Likely routes of exposure: Skin and eye contact; Inhalation

SECTION 12: Ecological information

12.1 Toxicity
Ecology - water: Harmful to aquatic life with long lasting effects.

Adipic acid (124-04-9)

| LC50 fish 1 | >= 1000 mg/l 96 h |
| EC50 Daphnia 1 | 46 mg/l 48 h |

Benzimidazole-2-thiol (583-39-1)

| LC50 fish 1 | 161 mg/l 48 h |
| EC50 Daphnia 1 | 14.16675 mg/l 48 h |

12.2 Persistence and degradability

Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

Persistence and degradability: May cause long-term adverse effects in the environment.
Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)

<table>
<thead>
<tr>
<th>substance</th>
<th>Persistence and degradability</th>
<th>Biodegradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>adipic acid (124-04-9)</td>
<td>Readily biodegradable.</td>
<td>90 % 5 d</td>
</tr>
</tbody>
</table>

**12.3. Bioaccumulative potential**

<table>
<thead>
<tr>
<th>substance</th>
<th>BCF fish 1</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>adipic acid (124-04-9)</td>
<td>3.162</td>
<td>0.093</td>
</tr>
<tr>
<td>benzimidazole-2-thiol (583-39-1)</td>
<td></td>
<td>1.45</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**

- **Sewage disposal recommendations**: Do not dispose of waste into sewer.
- **Waste disposal recommendations**: Dispose in a safe manner in accordance with local/national regulations.
- **Ecology - waste materials**: Hazardous waste due to toxicity. Avoid release to the environment.

**SECTION 14: Transport information**

In accordance with DOT and TDG

- **Transport document description**: UN2811 Toxic solids, organic, n.o.s. (benzimidazole-2-thiol), 6.1, III
- **UN-No.(DOT)**: UN2811
- **Proper Shipping Name (DOT)**: Toxic solids, organic, n.o.s. (benzimidazole-2-thiol)
- **Department of Transportation (DOT) Hazard Classes**: 6.1 - Poison inhalation hazard
- **Packing group (DOT)**: III - Minor Danger

**ADR**

- **Transport document description**: UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (benzimidazole-2-thiol), 6.1, III, (E)
- **Proper Shipping Name (ADR)**: TOXIC SOLID, ORGANIC, N.O.S. (benzimidazole-2-thiol)
- **Packing group (ADR)**: III
- **Class (ADR)**: 6.1 - Toxic substances

**Transport by sea**

- **UN-No. (IMDG)**: UN 2811
- **Proper Shipping Name (IMDG)**: TOXIC SOLID, ORGANIC, N.O.S. (benzimidazole-2-thiol)
- **Class (IMDG)**: 6.1 - Toxic substances
- **Packing group (IMDG)**: III

**Air transport**

- **UN-No.(IATA)**: UN 2811
- **Proper Shipping Name (IATA)**: TOXIC SOLID, ORGANIC, N.O.S. (benzimidazole-2-thiol)
- **Class (IATA)**: 6 -
- **Packing group (IATA)**: III

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

- **adipic acid (124-04-9)**
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory
  - **RQ (Reportable quantity, section 304 of EPA's List of Lists)**: 5000 lb
Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

according to Canadian Hazardous Products Regulations (HPR)

15.2. International regulations

**CANADA**

| Chemical | CAS Number | Information
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>benzimidazole-2-thiol</td>
<td>583-39-1</td>
<td>Listed on the Canadian DSL (Domestic Substances List) inventory.</td>
</tr>
</tbody>
</table>

**EU-Regulations**

| Chemical | CAS Number | Information
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>adipic acid</td>
<td>124-04-9</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
<tr>
<td>benzimidazole-2-thiol</td>
<td>583-39-1</td>
<td>Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)</td>
</tr>
</tbody>
</table>

**National regulations**

**Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)**

- All ingredients are listed in the Toxic Substances Control Act (TSCA).
- All components are listed on the EEC inventory European Inventory of Existing Commercial Chemical Substances (EINECS).
- All ingredients are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).

15.3. US State regulations

| Chemical | CAS Number | Information
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>adipic acid</td>
<td>124-04-9</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>Data sources</th>
<th>Information</th>
</tr>
</thead>
</table>
Thermomelt® HEAT-STIK Marker 575 °F (300, 302 °C)
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)

Abbreviations and acronyms:
- ACGIH (American Conference of Government Industrial Hygienists).
- 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.
- STEL: Short Term Exposure Limits.
- TSCA: Toxic Substances Control Act.
- TWA: Time Weight Average.

Other information:
- None.

NFPA health hazard: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention 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-phrases:

| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment — Chronic Hazard, Category 3 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H32 | Harmful if inhaled |
| H412 | Harmful to aquatic life with long lasting effects |

SDS Prepared by: The Redstone Group, LLC
6597 Emerald Pkwy,
Suite 200
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.