# Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C)

LA-CO Industries, Inc.

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: 11/03/2015

Version: 1.0

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

### 1.1. Product identifier

Product form : Mixture

Trade name : Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °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

Emergency number : 24-hour emergency: CHEMTREC- U.S. : 1-800-424-9300 International: +1-703-527-3887

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification in accordance with the Globally Harmonized Standard**

Skin Irrit. 2 H315
Eye Irrit. 2A H319
Carc. 2 H351
STOT SE 3 H335

Full text of hazard classes and H-statements : see section 16

### 2.2 Label elements

**GHS-US labelling**

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) :
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, protective gloves
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
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a doctor if you feel unwell
P321 - Specific treatment (see First aid measures on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention

P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards

Other hazards not contributing to the classification : No additional hazards have been identified.

### 2.4 Unknown acute toxicity (GHS US)

4.21 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
4.21 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
4.21 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| hymecromone | (CAS No) 90-33-5 | 83.63 : 348 °F<br>78.32 : 358 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| Molybdenum trioxide | (CAS No) 1313-27-5 | 13 : 850 °F<br>30.71 : 900 °F<br>56.4 : 1040 °F | Eye Irrit. 2A, H319<br>Carc. 2, H351<br>STOT SE 3, H335 |
| dilithium molybdate | (CAS No) 13568-40-6 | 38.02 : 850 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| potassium molybdate | (CAS No) 13446-49-6 | 20.9 : 900 °F<br>37.59 : 1040 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| Carbon black | (CAS No) 1333-86-4 | 0.91 : 348 °F<br>0.81 : 350 °F | Carc. 2, H351 |

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. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If inhaled and if breathing is difficult, 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 : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get 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 : Do NOT induce vomiting unless directed to do so by medical personnel. Call a POISON CENTER or doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : May cause cancer.

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation.

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

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

No special procedures required. Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Sand. Water spray.

Unsuitable extinguishing media : None known.

### 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 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 contact with skin and eyes. Avoid creating or spreading dust.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves resistant to chemical penetration. Nitrile gloves. Chemical goggles or safety glasses. Do not breathe dust.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Avoid breathing dust. Wear suitable protective clothing and gloves. Nitrile rubber. Chemical goggles or safety glasses.

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. Use only outdoors or in a well-ventilated area.

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 closed when not in use.

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

| Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C) | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| hymecromone (90-33-5) | |
|---|---|
| ACGIH | Not applicable |

| **hymecromone (90-33-5)** | |
|---|---|
| OSHA | Not applicable |

| **Carbon black (1333-86-4)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 3.5 mg/m³ |
| ACGIH | Remark (ACGIH) | Bronchitis |
| OSHA | OSHA PEL (TWA) (mg/m³) | 3.5 mg/m³ |
| Canada (Quebec) | VEMP (mg/m³) | 10 mg/m³ (Fibres de carbone et de graphite; Poussière totale)<br>5 mg/m³ (Fibres de carbone et de graphite; Poussière respirable)<br>3.5 mg/m³ |

| **Molybdenum trioxide (1313-27-5)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **potassium molybdate (13446-49-6)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **dilithium molybdate (13568-40-6)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 8.2. Exposure controls

Appropriate engineering controls : No special work practices are needed beyond the above recommendations under anticipated conditions of normal use. Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air).

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear dust impervious gloves.

Eye protection : No special eye protection equipment recommended under normal conditions of use. In case of dust production: protective goggles.

Skin and body protection : Wear suitable protective clothing. Impervious clothing.

Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of inadequate ventilation wear respiratory protection. Use air-purifying respirator equipped with particulate filtering cartridges.

Thermal hazard protection : Flame retardant clothing should be used when handling in molten state.

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : A solid crayon-like marker.

Colour : variable.

Odour : odourless.

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapour pressure : No data available

Relative vapour density at 20 °C : No data available

Relative density : No data available

| | | |
|---|---|---|
| Solubility | : | No data available |
| Log Pow | : | No data available |
| Log Kow | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosive properties | : | Product is not explosive. |
| Oxidising properties | : | No oxidizing properties. |
| Explosive limits | : | No data available |

**9.2. Other information**

VOC content : 0 %

## 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.

**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

| **hymecromone (90-33-5)** | |
|---|---|
| LD50 oral rat | 3850 mg/kg |
| ATE CLP (oral) | 3850.000 mg/kg bodyweight |

| **Carbon black (1333-86-4)** | |
|---|---|
| LD50 oral rat | > 8000 mg/kg |
| LC50 inhalation rat (mg/l) | > 4.6 mg/m³ 4 h |

| **Molybdenum trioxide (1313-27-5)** | |
|---|---|
| LD50 oral rat | > 2000 mg/kg |
| LD50 dermal rat | > 2000 mg/kg bodyweight |
| LC50 inhalation rat (mg/l) | > 3.92 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** : Suspected of causing cancer.

| **Carbon black (1333-86-4)** | |
|---|---|
| IARC group | 2B - Possibly carcinogenic to humans, Inhalation of dust |
| National Toxicology Program (NTP) Status | Not listed in carcinogenicity class |

**Reproductive toxicity** : Not classified

**Specific target organ toxicity (single exposure)** : May cause respiratory irritation.

**Specific target organ toxicity (repeated exposure)** : Not classified

**Aspiration hazard** : Not classified

**Potential adverse human health effects and symptoms**

Symptoms/injuries after inhalation : May cause respiratory irritation.

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

| **Molybdenum trioxide (1313-27-5)** | |
|---|---|
| LC50 fish 1 | >= 43.3 (≤ 58) mg/l |
| NOEC (chronic) | > 87.8 mg/l |

**12.2. Persistence and degradability**

| **Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C)** | |
|---|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |

| **Carbon black (1333-86-4)** | |
|---|---|
| Persistence and degradability | Not readily biodegradable. |

**12.3. Bioaccumulative potential**

| **Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C)** | |
|---|---|
| Bioaccumulative potential | Not established. |

**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 : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT and TDG
Not considered a dangerous good for transport regulations
Proper Shipping Name (ADR) : Not applicable
Transport hazard class(es) (ADR) :

**Transport by sea**

Transport hazard class(es) (IMDG) :

**Air transport**

Transport hazard class(es) (IATA) :

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

| **hymecromone (90-33-5)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **Carbon black (1333-86-4)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **Molybdenum trioxide (1313-27-5)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **potassium molybdate (13446-49-6)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| **dilithium molybdate (13568-40-6)** |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

### 15.2. International regulations

**CANADA**

| **hymecromone (90-33-5)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **Carbon black (1333-86-4)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **Molybdenum trioxide (1313-27-5)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **potassium molybdate (13446-49-6)** |
|---|
| Listed on the Canadian NDSL (Non-Domestic Substances List) |

| **dilithium molybdate (13568-40-6)** |
|---|
| Listed on the Canadian NDSL (Non-Domestic Substances List) |

**EU-Regulations**

| **hymecromone (90-33-5)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **Carbon black (1333-86-4)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **Molybdenum trioxide (1313-27-5)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **potassium molybdate (13446-49-6)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **dilithium molybdate (13568-40-6)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| **Tempilstik® 348 °F (175 °C), 350** °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C) |
|---|
| All components are listed on the EEC inventory European Inventory of Existing Commercial Chemical Substances (EINECS).<br>All ingredients are listed in the Toxic Substances Control Act (TSCA).<br>All ingredients are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL). |

### 15.3. US State regulations

| **Carbon black (1333-86-4)** | | | | |
|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | Non-significant risk level (NSRL) |
| Yes | No | No | No | |

| **Carbon black (1333-86-4)** |
|---|
| U.S. - New Jersey - Right to Know Hazardous Substance List |

## SECTION 16: Other information

Indication of changes : Original Document.

Data sources : ACGIH (American Conference of Governement Industrial Hygienists).

European Chemicals Agency (ECHA) C&L Inventory database. Accessed at http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database.

Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.

National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.

OSHA 29CFR 1910.1200 Hazard Communication Standard.

TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.

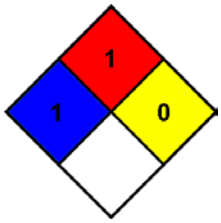
Abbreviations and acronyms : ATE: Acute Toxicity Estimate. CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of 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:

| | |
|---|---|
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H351 | Suspected of causing cancer |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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*