TEM 0150

LA-CO Industries, Inc.

# Tempilstik® 150 °F (66 °C), 158 °F (70 °C), 163 °F (73 °C), 167 °F (75 °C), 169 °F (76 °C), 175 °F (79 °C)

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 06/04/2015 Revision date: 30/10/2015 : Version: 2.0

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

### 1.1. Product identifier

Product form : Mixture

Trade name : Tempilstik® 150 °F (66 °C), 158 °F (70 °C), 163 °F (73 °C), 167 °F (75 °C), 169 °F (76 °C), 175 °F (79 °C)

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

#### 1.2.1. Relevant identified uses

Main use category : Professional use

Use of the substance/mixture : Temperature indicator

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

LA-CO Industries Europe S.A.S.
Parc Industriel de la Plaine de
l'Ain - Allée des Combes.
01150.BLYES.France.
Phone: +33 (0)4 74 46 23 23
Fax: +33 (0)4 74 46 23 29
E-mail: info@eu.laco.com
Web: http://www.markal.com

### 1.4. Emergency telephone number

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

| EU Member State | Officieel adviesorgaan | Adres | Noodnummer |
|---|---|---|---|
| AUSTRIA | Vergiftungsinformationszentrale (Poisons Information Centre) | Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien | +43 1 406 43 43 |
| BELARUS | The Belarus Republican Poisons Centre | Kizhevatova str. 58 220115 Minsk | +375 (0)17 201 9158 |
| BELGIUM | Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid | Rue Bruyn 1 B -1120 Bruxelles/Brussel | +32 70 245 245 |
| BULGARIA | Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov" | 21 Totleben Boulevard 1606 SOFIA | +359 2 9154 409 |
| CROATIA | Poisons Control Centre Institute of Medical Research & Occupational Health | Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb | +385 1 234 8342 |
| CZECH REPUBLIC | Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University | Na Bojišti 1 120 00 Praha 2 | +42 2 2491 9293 +42 2 2491 5402 |
| DENMARK | Giftlinjen Bispebjerg Hospital | Bispebjerg Bakke 23, 60, 1 DK-2400 København NV | +45 82 12 12 12 +45 35 31 55 55 |
| ESTONIA | Mürgistusteabekeskus | Gonsiori 29 15027 Tallinn | +372 626 93 90 |
| FINLAND | Myrkytystietokeskus | P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki | +358 9 471 977 |
| FRANCE | ORFILA | | +33 1 45 42 59 59 |
| GERMANY | Berliner Betrieb für Zentrale Gesundheitliche Aufgaben | Oranienburger Strasse 285 13437 Berlin | +49 30 19240 |
| GERMANY | Informations und Beratungszentrum für Vergiftungsfälle | Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar | +49 6841 19240 |
| GERMANY | Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen | Langenbeckstrasse 1 55131 Mainz | +49 6131 19240 |
| GREECE | Poisons Information Centre | 11527 Athens | +30 10 779 3777 |
| HUNGARY | Országos Kémiai Biztonsági Intézet (National Institute of Chemical Safety) Egészségügyi Toxikológiai Tájékoztató Szolgálat (Health Toxicological Information Service) | 1437 Budapest PO Box 839 1097 Budapest, Nagyvárad tér 2 | +36 80 20 11 99 |

| | | | |
|---|---|---|---|
| ICELAND | Eitrunarmiðstöðin | Eitrunarmiðstöðin 108 Reykjavik | +354 543 22 22 |
| IRELAND | National Poisons Information Centre | Beaumont Hospital PO Box 1297 Beaumont Road 9 Dublin | +353 1 809 2166 |
| LATVIA | Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs | 2 Hipocrate Street LV 1038 Riga | +371 67 04 24 73 |
| LITHUANIA | Apsinuodijimų kontrolės ir informacijos biuras | Siltnamiu 29 2043 Vilnius | +370 5 236 20 52/+370 687 53 378 |
| MALTA | Medicines & Poisons Info Office | Mater Dei Hospital, Msida MSD 2090 Malta | 25450000 |
| NETHERLANDS | Nationaal Vergiftigingen Informatie Centrum National Institute for Public Health and the Environment, NB this service is only available to health professionals | Huispostnummer B.00.118, PO Box 85500 3508 GA Utrecht | +31 30 274 88 88 |
| PORTUGAL | Centro de Informação Antivenenos Instituto Nacional de Emergência Médica (INEM) | Rua Almirante Barroso, 36 1000-013 Lisboa | 808 250 143 (for use only in Portugal), +351 21 330 3284 |
| ROMANIA | Biroul pentru Regulamentul Sanitar International si Informare Toxicologica | Str. Dr. Leonte Anastasievici Nr.1-3, Sector 5 50463 Bucuresti | +40 21 318 36 06 |
| SLOVAKIA | Národné toxikologické informačné centrum University Hospital Bratislava | Limbová 5 833 05 Bratislava | +421 2 54 77 4 166 |
| SPAIN | Servicio de Información Toxicológica Instituto Nacional de Toxicología, Departamento de Madrid | Calle Luis Cabrera 9 E-28002 Madrid | +34 91 562 04 20 |
| SWEDEN | Giftinformationscentralen Swedish Poisons Information Centre, Karolinska Hospital | Box 60 500 SE-171 76 Stockholm | +46 8 33 12 31 (International) 112 (National) |
| SWITZERLAND | Centre Suisse d'Information Toxicologique | Freiestrasse 16 Postfach CH-8028 Zurich | +41 44 251 51 51 (International) 145 (National) |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

| | |
|---|---|
| Acute Tox. 4 (Oral) | H302 |
| Acute Tox. 4 (Dermal) | H312 |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 |
| STOT RE 2 | H373 |

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

**Adverse physicochemical, human health and environmental effects**

No additional information available

### 2.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Warning

Hazardous ingredients : acetoacetanilide

Hazard statements (CLP) : H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (CLP) : P260 - Do not breathe 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
P280 - Wear protective gloves
P301+P312 - If swallowed: Call a poison center or doctor
P302+P352 - IF ON SKIN: Wash with plenty of water
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a poison center or doctor if you feel unwell
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
P362+P364 - Take off contaminated clothing and wash it before reuse
P501 - Dispose of contents/container to an authorised waste collection point

### 2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| acetoacetanilide | (CAS No) 102-01-2<br>(EC no) 202-996-4 | 70 – 90 | Acute Tox. 4 (Oral), H302<br>Acute Tox. 4 (Dermal), H312<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>STOT RE 2, H373 |
| butyl 4-hydroxybenzoate | (CAS No) 94-26-8<br>(EC no) 202-318-7 | 0 – 7 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| Cobalt compound | (CAS No) trade secret | 0 – 2 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| Carbon black | (CAS No) 1333-86-4<br>(EC no) 215-609-9 | < 0.1 | Carc. 2, H351 |
| Cobalt | (CAS No) 7440-48-4<br>(EC no) 231-158-0<br>(EC index no) 027-001-00-9 | < 0.1 | Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Aquatic Chronic 4, H413 |
| barium sulfate | (CAS No) 7727-43-7<br>(EC no) 231-784-4 | < 0.1 | Not classified |

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. 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. Wash with plenty of soap and water. Wash contaminated clothing before reuse.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.

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 : May cause damage to organs through prolonged or repeated exposure.

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. Harmful in contact with skin.

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

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. Burning produces irritating, toxic and noxious fumes.

Hazardous decomposition products in case of fire : Thermal decomposition generates : Carbon dioxide. Carbon monoxide. Mixture of hydrocarbons.

### 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. EN469.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Always approach spills or fires from upwind/uphill. Avoid creating or spreading dust. Avoid contact with skin and eyes.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves resistant to chemical penetration. In case of inadequate ventilation wear respiratory protection.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable gloves resistant to chemical penetration. Where excessive 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 : 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 : 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 : 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

| **barium sulfate (7727-43-7)** | | |
|---|---|---|
| Belgium | Limit value (mg/m³) | 10 mg/m³ |
| Belgium | Remark (BE) | (sulfate de) |
| Ireland | OEL (8 hours ref) (mg/m³) | 2 mg/m³ |
| Slovakia | NPHV (priemerná) (mg/m³) | 1.5 mg/m³ (respirabilná frakcia)<br>4 mg/m³ (inhalovate¾ná frakcia) |
| Spain | VLA-ED (mg/m³) | 10 mg/m³ |
| Spain | Notes | e |
| United Kingdom | WEL TWA (mg/m³) | 10 mg/m³ inhalable aerosol<br>4 mg/m³ respirable aerosol |

| **Carbon black (1333-86-4)** | | |
|---|---|---|
| Belgium | Limit value (mg/m³) | 3.5 mg/m³ |
| Denmark | Grænseværdie (langvarig) (mg/m³) | 3.5 mg/m³ |
| Denmark | Anmærkninger (DK) | K |

| Carbon black (1333-86-4) | | |
|---|---|---|
| Finland | HTP-arvo (8h) (mg/m³) | 3.5 mg/m³ |
| Finland | HTP-arvo (15 min) | 7 mg/m³ |
| France | VME (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (8 hours ref) (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (15 min ref) (mg/m3) | 7 mg/m³ |
| Spain | VLA-ED (mg/m³) | 3.5 mg/m³ |
| Sweden | nivågränsvärde (NVG) (mg/m³) | 3 mg/m³ |
| United Kingdom | Local name | Carbon black |
| United Kingdom | WEL TWA (mg/m³) | 3.5 mg/m³ |
| United Kingdom | WEL STEL (mg/m³) | 7 mg/m³ |
| Norway | Grenseverdier (AN) (mg/m³) | 3.5 mg/m³ |

| Cobalt (7440-48-4) | | |
|---|---|---|
| Belgium | Remark (BE) | (fumées et poussières) (en Co) |
| Finland | Huomautus (FI) | (Co) |
| Lithuania | IPRV (mg/m³) | 0.05 mg/m³ |
| Lithuania | Remark (LT) | K M J |
| Slovakia | NPHV (priemerná) (mg/m³) | 0.05 mg/m³ poznámka S |
| Slovakia | NPHV (priemerná) (ppm) | 30 µg/l (Kobalt) |
| Spain | VLA-ED (mg/m³) | 0.02 mg/m³ (Cobalto elemental y compuestos inorgánicos, como Co) |
| Spain | VLA-ED (ppm) | 15 µg/l F "(Cobalto en orina; Final de la semana laboral 1)"<br>1 µg/l F, S "(Cobalto en sangre; Final de la semana laboral 1)" |
| Sweden | nivågränsvärde (NVG) (mg/m³) | 0.02 mg/m³ |
| Sweden | Anmärkning (SE) | (C,H,S,2) |
| United Kingdom | WEL TWA (mg/m³) | 0.1 mg/m³ |
| Norway | Grenseverdier (AN) (mg/m³) | 0.02 mg/m³ RA // Kobolt (røyk) og uorg. Kobolt-forb. (beregnet som Co, unntatt CO(II) |
| Switzerland | VME (ppm) | 30 µg/l Cobalt, Urin, b |

### 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. EN 374.

Eye protection : In case of dust production: protective goggles. EN 166.

Respiratory protection : Use air-purifying respirator equipped with particulate filtering cartridges. In case of inadequate ventilation wear respiratory protection. EN 12083.

## SECTION 9: Physical and chemical properties

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

Physical state : Solid

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 |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| 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. 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** : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation:dust,mist: Harmful if inhaled.

| **Tempilstik® 150 °F (66 °C), 158 °F (70 °C), 163 °F (73 °C), 167 °F (75 °C), 169 °F (76 °C), 175 °F (79 °C)** | |
|---|---|
| ATE CLP (oral) | 1278.978 mg/kg bodyweight |
| ATE CLP (dermal) | 1243.922 mg/kg bodyweight |
| ATE CLP (dust,mist) | 1.696 mg/l/4h |

| **acetoacetanilide (102-01-2)** | |
|---|---|
| LD50 oral rat | 1131 (1131 - 4650) mg/kg |
| LD50 dermal | > 1000 mg/kg guinea pig |
| ATE CLP (oral) | 1131.000 mg/kg bodyweight |
| ATE CLP (dermal) | 1100.000 mg/kg bodyweight |
| ATE CLP (dust,mist) | 1.500 mg/l/4h |

| **barium sulfate (7727-43-7)** | |
|---|---|
| LD50 oral rat | 307 g/kg |
| LD50 dermal rat | > 2000 mg/kg |
| ATE CLP (oral) | 307000.000 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 |

| **butyl 4-hydroxybenzoate (94-26-8)** | |
|---|---|
| LD50 oral rat | 13200 mg/kg |
| ATE CLP (oral) | 13200.000 mg/kg bodyweight |

| **Cobalt (7440-48-4)** | |
|---|---|
| LD50 oral rat | 7150 mg/kg OECD Guideline 401 |
| LD50 dermal rat | > 2000 mg/kg OECD Guideline 402 as tricobalt tetraoxide |

| Cobalt (7440-48-4) | |
|---|---|
| ATE CLP (oral) | 7150.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified

**Serious eye damage/irritation** : Not classified

**Respiratory or skin sensitisation** : Not classified

**Germ cell mutagenicity** : Not classified

**Carcinogenicity** : Not classified

| barium sulfate (7727-43-7) | |
|---|---|
| NOAEL (chronic, oral, animal/male, 2 years) | 60 mg/kg bodyweight |
| NOAEL (chronic, oral, animal/female, 2 years) | 75 mg/kg bodyweight |

**Reproductive toxicity** : Not classified

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

**Specific target organ toxicity (repeated exposure)** : May cause damage to organs through prolonged or repeated exposure.

| acetoacetanilide (102-01-2) | |
|---|---|
| NOAEL (oral, rat, 90 days) | 12 mg/kg bodyweight/day 28 days |
| Affected organs | blood |
| Route of exposure | oral |

**Aspiration hazard** : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

| acetoacetanilide (102-01-2) | |
|---|---|
| LC50 fish 1 | 242 (242 - 332) mg/l 96 hours, Brachydanio rerio |
| ErC50 (algae) | 318 mg/l Selenastrum capricornutum , 72 hours |
| ErC50 (other aquatic plants) | 500 mg/l 3 hours |
| NOEC chronic algae | 180 mg/l |

| barium sulfate (7727-43-7) | |
|---|---|
| LC50 fish 1 | > 3.5 mg/l 96 h |
| EC50 Daphnia 1 | 14500 µg/l 48 h |

| Cobalt (7440-48-4) | |
|---|---|
| LC50 fish 1 | 275 mg/l |
| LOEC (chronic) | 53.6 mg/l as cobalt dichloride |
| NOEC (chronic) | 31.1 mg/l 28 d as cobalt dichloride |

### 12.2. Persistence and degradability

| acetoacetanilide (102-01-2) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | 97 % degraded after 6 days |

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

### 12.3. Bioaccumulative potential

| acetoacetanilide (102-01-2) | |
|---|---|
| Log Pow | 0.76 |

| barium sulfate (7727-43-7) | |
|---|---|
| BCF fish 1 | 68.4 L/kg |

| Cobalt (7440-48-4) | |
|---|---|
| Bioconcentration factor (BCF REACH) | < 73 |
| Bioaccumulative potential | Not expected to bioaccumulate. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

| Tempilstik® 150 °F (66 °C), 158 °F (70 °C), 163 °F (73 °C), 167 °F (75 °C), 169 °F (76 °C), 175 °F (79 °C) |
|---|
| PBT: not yet assessed |
| vPvB: not yet assessed |

### 12.6. 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.

European List of Waste (LoW) code : For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

H code : H5 - 'Harmful': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

Not considered a dangerous good for transport regulations

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) :

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Inland waterway transport

Carriage prohibited (ADN) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 0 %

#### 15.1.2. National regulations

**Germany**

Water hazard class (WGK) : 2 - hazard to waters

WGK remark : Classification based on the R-phrases in compliance withVerwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

according to Regulation (EU) 2015/830

Indication of changes:
Added. Product.

Abbreviations and acronyms:

| | |
|---|---|
| | ACGIH (American Conference of Government Industrial Hygienists) |
| | 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 |
| | PNEC: Predicted No Effect Level |
| | STEL: Short Term Exposure Limits |
| | TSCA: Toxic Substances Control Act |
| | TWA: Time Weighted Average |

Data sources : ACGIH 2000.

Canadian Centre for Occupational Health and Safety. Accessed at: http://www.ccohs.ca/oshanswers/legisl/whmis_classifi.html.

ESIS (European chemincal Substances Information System; accessed at: http://esis.jrc.ec.europa.eu/index.php?PGM=cla.

European Chemicals Agency (ECHA) Registered Substances list. Accessed at http://echa.europa.eu/. 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.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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

Other information : None.

Full text of R-, H- and EUH-statements:

| | |
|---|---|
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 4 | Hazardous to the aquatic environment — Chronic Hazard, Category 4 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Resp. Sens. 1 | Sensitisation — Respiratory, Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, Category 1 |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H302 | Harmful if swallowed |
| H312 | Harmful in contact with skin |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H319 | Causes serious eye irritation |
| H332 | Harmful if inhaled |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
| H335 | May cause respiratory irritation |

| | |
|---|---|
| H351 | Suspected of causing cancer |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H413 | May cause long lasting harmful effects to aquatic life |

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| | | |
|---|---|---|
| Acute Tox. 4 (Oral) | H302 | Calculation method |
| Acute Tox. 4 (Dermal) | H312 | Calculation method |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 | Calculation method |
| STOT RE 2 | H373 | Calculation method |

LA-CO EU CLP SDS


**SDS Prepared by:** The Redstone Group, LLC
6077 Frantz Rd.
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www.redstonegrp.com


*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*

TEM 0200

# Tempilstik® : 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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: 04/22/2015
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® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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**

Not classified

### 2.2 Label elements

**GHS-US labelling**

No labelling applicable

### 2.3. Other hazards

No additional information available

### 2.4 Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| 2',4'-dimethylacetoacetanilide | (CAS No) 97-36-9 | 84.79 : 182 °F | Acute Tox. 4 (Oral), H302 |
| adipic acid | (CAS No) 124-04-9 | 6.38 : 383 °F<br>4.67 : 388 °F<br>4.71 : 392 °F | Eye Irrit. 2A, H319 |
| salicylamide | (CAS No) 65-45-2 | 8.24 : 206 °F | Acute Tox. 4 (Oral), H302 |

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| Iron oxide red | (CAS No) 1309-37-1 | 1.69 : 263 °F<br>0.21 – 0.3 : 320 °F<br>0.79 : 1400 °F<br>0.84 – 1.22 : 1600 °F<br>1.52 : 1950 °F | Aquatic Chronic 2, H411 |
| butyl 4-hydroxybenzoate | (CAS No) 94-26-8 | 0.91 : 182 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| phenyl salicylate | (CAS No) 118-55-8 | 4.1 – 4.14 : 104 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| lithium sulphate | (CAS No) 10377-48-7 | 1.9 : 1500 °F<br>1.88 : 1600 °F | Acute Tox. 4 (Oral), H302 |

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. 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 : Wash with plenty of soap and water.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.

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 : May cause respiratory irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

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

Treat symptomatically.

## 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. 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.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable 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

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

| **Tempilstik® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °C)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **phenyl salicylate (118-55-8)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **butyl 4-hydroxybenzoate (94-26-8)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **salicylamide (65-45-2)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **Iron oxide red (1309-37-1)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |

| **Iron oxide red (1309-37-1)** | | |
|---|---|---|
| ACGIH | Remark (ACGIH) | Pneumoconiosis |
| OSHA | OSHA PEL (TWA) (mg/m³) | 10 mg/m³ |
| Canada (Quebec) | VEMP (mg/m³) | 5 mg/m³ (Fer, trioxyde de, fumées et poussières (exprimée en Fe))<br>10 mg/m³ (Rouge) |

| **adipic acid (124-04-9)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |
| ACGIH | Remark (ACGIH) | URT irr; ANS impair |
| OSHA | Not applicable | |
| Canada (Quebec) | VEMP (mg/m³) | 5 mg/m³ |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 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.

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

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 : No data available

Oxidising properties : No data available

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. 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** : Oral: Not classified.

| **phenyl salicylate (118-55-8)** | |
|---|---|
| LD50 oral rat | 3000 mg/kg |
| ATE CLP (oral) | 3000.000 mg/kg bodyweight |

| **butyl 4-hydroxybenzoate (94-26-8)** | |
|---|---|
| LD50 oral rat | 13200 mg/kg |
| ATE CLP (oral) | 13200.000 mg/kg bodyweight |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| LD50 oral rat | 1995 mg/kg |
| ATE CLP (oral) | 1995.000 mg/kg bodyweight |

| **salicylamide (65-45-2)** | |
|---|---|
| LD50 oral rat | 1400 mg/kg |
| ATE CLP (oral) | 1400.000 mg/kg bodyweight |

| **Iron oxide red (1309-37-1)** | |
|---|---|
| LD50 oral rat | > 10000 mg/kg |

| **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 |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| LD50 oral rat | 613 mg/kg |
| ATE CLP (oral) | 613.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified
**Serious eye damage/irritation** : Not classified.
**Respiratory or skin sensitisation** : Not classified
**Germ cell mutagenicity** : Not classified
**Carcinogenicity** : Not classified.

| **Iron oxide red (1309-37-1)** | |
|---|---|
| IARC group | 3 - Not classifiable |
| National Toxicology Program (NTP) Status | Not listed in carcinogenicity class |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| NOAEL (chronic, oral, animal/male, 2 years) | 15 mg/kg bodyweight |

**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 : May cause respiratory irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Likely routes of exposure : Inhalation;Skin and eye contact

## SECTION 12: Ecological information

**12.1 Toxicity**

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| LC50 fish 1 | 250 (250 - 350) mg/l |

| **salicylamide (65-45-2)** | |
|---|---|
| LC50 fish 1 | 101 mg/l 96 h |
| EC50 Daphnia 1 | 75 mg/l 24 h |

| **Iron oxide red (1309-37-1)** | |
|---|---|
| EC50 Daphnia 1 | > 100 mg/l |

| **adipic acid (124-04-9)** | |
|---|---|
| LC50 fish 1 | >= 1000 mg/l 96 h |
| EC50 Daphnia 1 | 46 mg/l 48 h |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| LC50 fish 1 | 30.3 mg/l read-across, 96 h |
| EC50 Daphnia 1 | 33.2 mg/l read across, 48 h |
| LOEC (chronic) | 24.35 mg/l read-across lithium hydroxide monohydrate |
| NOEC (chronic) | 17.35 mg/l read-across lithium hydroxide monohydrate |

**12.2. Persistence and degradability**

| **phenyl salicylate (118-55-8)** | |
|---|---|
| Persistence and degradability | Moderately biodegradable. |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| Biodegradation | 25 % 28 d |

| **salicylamide (65-45-2)** | |
|---|---|
| Biodegradation | 99 % 28 d |

| **adipic acid (124-04-9)** | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | 90 % 5 d |

**12.3. Bioaccumulative potential**

| **phenyl salicylate (118-55-8)** | |
|---|---|
| Log Pow | 3.82 |
| Bioaccumulative potential | Not established. |

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| Log Pow | 1.4 |

| salicylamide (65-45-2) | |
|---|---|
| Log Pow | 1.31 |

| adipic acid (124-04-9) | |
|---|---|
| BCF fish 1 | 3.162 |
| Log Pow | 0.093 |

| lithium sulphate (10377-48-7) | |
|---|---|
| Log Pow | -4.38 |

### 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

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

## 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 by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| phenyl salicylate (118-55-8) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| butyl 4-hydroxybenzoate (94-26-8) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| 2',4'-dimethylacetoacetanilide (97-36-9) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| salicylamide (65-45-2) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| Iron oxide red (1309-37-1) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| 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 |

| lithium sulphate (10377-48-7) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

### 15.2. International regulations

**CANADA**

| **phenyl salicylate (118-55-8)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **butyl 4-hydroxybenzoate (94-26-8)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **2',4'-dimethylacetoacetanilide (97-36-9)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **salicylamide (65-45-2)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **Iron oxide red (1309-37-1)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **adipic acid (124-04-9)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **lithium sulphate (10377-48-7)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

**EU-Regulations**

| **phenyl salicylate (118-55-8)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **butyl 4-hydroxybenzoate (94-26-8)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **2',4'-dimethylacetoacetanilide (97-36-9)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **salicylamide (65-45-2)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **Iron oxide red (1309-37-1)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **adipic acid (124-04-9)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **lithium sulphate (10377-48-7)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| **Tempilstik® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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

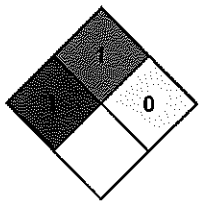
| **Iron oxide red (1309-37-1)** |
|---|
| U.S. - Minnesota - Hazardous Substance List<br>U.S. - New Jersey - Right to Know Hazardous Substance List |

| **adipic acid (124-04-9)** |
|---|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

| | |
|---|---|
| Indication of changes | : Original Document. |
| Data sources | : ACGIH (American Conference of Governement Industrial Hygienists).<br>European Chemicals Agency (ECHA) C&L Inventory database. Accessed at http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database.<br>Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.<br>National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.<br>OSHA 29CFR 1910.1200 Hazard Communication Standard.<br>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.<br>CLP: Classification, Labelling, Packaging.<br>EC50: Environmental Concentration associated with a response by 50% of the test population.<br>GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).<br>LD50: Lethal Dose for 50% of the test population.<br>OSHA: Occupational Safety & Health Administration.<br>PBT: Persistent, Bioaccumulative, Toxic.<br>TWA: Time Weight Average.<br>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-phrases:

| | |
|---|---|
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Carc. 1A | Carcinogenicity, Category 1A |
| 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 |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |
| H411 | Toxic to aquatic life with long lasting effects |

**SDS Prepared by:** The Redstone Group, LLC
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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*

JEM 0250

LA-CO Industries, Inc.

# Templstik® 185 °F (85 °C), 188 °F (87 °C), 250 °F (121 °C), 425 °F (218 °C), 428 °F (220 °C), 1250 °F (677 °C), 248 °F (120 °C)

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 16/11/2015 Revision date: 29/12/2015 : Version: 2.0

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

### 1.1. Product identifier

Product form : Mixture

Trade name : Templstik® 185 °F (85 °C), 188 °F (87 °C), 250 °F (121 °C), 425 °F (218 °C), 428 °F (220 °C), 1250 °F (677 °C), 248 °F (120 °C)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Temperature indicator

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

LA-CO Industries Europe S.A.S.
Parc Industriel de la Plaine de
l'Ain - Allée des Combes.
01150.BLYES.France.
Phone: +33 (0)4 74 46 23 23
Fax: +33 (0)4 74 46 23 29
E-mail: info@eu.laco.com
Web: http://www.markal.com

### 1.4. Emergency telephone number

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

| EU Member State | Officieel adviesorgaan | Adres | Noodnummer |
|---|---|---|---|
| AUSTRIA | Vergiftungsinformationszentrale (Poisons Information Centre) | Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien | +43 1 406 43 43 |
| BELARUS | The Belarus Republican Poisons Centre | Kizhevatova str. 58 220115 Minsk | +375 (0)17 201 9158 |
| BELGIUM | Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid | Rue Bruyn 1 B -1120 Bruxelles/Brussel | +32 70 245 245 |
| BULGARIA | Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov" | 21 Totleben Boulevard 1606 SOFIA | +359 2 9154 409 |
| CROATIA | Poisons Control Centre Institute of Medical Research & Occupational Health | Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb | +385 1 234 8342 |
| CZECH REPUBLIC | Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University | Na Bojišti 1 120 00 Praha 2 | +42 2 2491 9293 +42 2 2491 5402 |
| DENMARK | Giftlinjen Bispebjerg Hospital | Bispebjerg Bakke 23, 60, 1 DK-2400 København NV | +45 82 12 12 12 +45 35 31 55 55 |
| ESTONIA | Mürgistusteabekeskus | Gonsiori 29 15027 Tallinn | +372 626 93 90 |
| FINLAND | Myrkytystietokeskus | P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki | +358 9 471 977 |
| FRANCE | ORFILA | | +33 1 45 42 59 59 |
| GERMANY | Berliner Betrieb für Zentrale Gesundheitliche Aufgaben | Oranienburger Strasse 285 13437 Berlin | +49 30 19240 |
| GERMANY | Informations und Beratungszentrum für Vergiftungsfälle | Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar | +49 6841 19240 |
| GERMANY | Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen | Langenbeckstrasse 1 55131 Mainz | +49 6131 19240 |
| GREECE | Poisons Information Centre | 11527 Athens | +30 10 779 3777 |
| HUNGARY | Országos Kémiai Biztonsági Intézet (National Institute of Chemical Safety) Egészségügyi Toxikológiai Tájékoztató Szolgálat (Health Toxicological Information Service) | 1437 Budapest PO Box 839 1097 Budapest, Nagyvárad tér 2 | +36 80 20 11 99 |
| ICELAND | Eitrunarmiðstöðin | Eitrunarmiðstöðin 108 Reykjavik | +354 543 22 22 |

| | | | |
|---|---|---|---|
| IRELAND | National Poisons Information Centre | Beaumont Hospital PO Box 1297 Beaumont Road 9 Dublin | +353 1 809 2166 |
| LATVIA | Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs | 2 Hipocrate Street LV 1038 Riga | +371 67 04 24 73 |
| LITHUANIA | Apsinuodijimų kontrolės ir informacijos biuras | Siltnamiu 29 2043 Vilnius | +370 5 236 20 52/+370 687 53 378 |
| MALTA | Medicines & Poisons Info Office | Mater Dei Hospital, Msida MSD 2090 Malta | 25450000 |
| NETHERLANDS | Nationaal Vergiftigingen Informatie Centrum National Institute for Public Health and the Environment, NB this service is only available to health professionals | Huispostnummer B.00.118, PO Box 85500 3508 GA Utrecht | +31 30 274 88 88 |
| PORTUGAL | Centro de Informação Antivenenos Instituto Nacional de Emergência Médica (INEM) | Rua Almirante Barroso, 36 1000-013 Lisboa | 808 250 143 (for use only in Portugal), +351 21 330 3284 |
| ROMANIA | Biroul pentru Regulamentul Sanitar International si Informare Toxicologica | Str. Dr. Leonte Anastasievici Nr.1-3, Sector 5 50463 Bucuresti | +40 21 318 36 06 |
| SLOVAKIA | Národné toxikologické informačné centrum University Hospital Bratislava | Limbová 5 833 05 Bratislava | +421 2 54 77 4 166 |
| SPAIN | Servicio de Información Toxicológica Instituto Nacional de Toxicología, Departamento de Madrid | Calle Luis Cabrera 9 E-28002 Madrid | +34 91 562 04 20 |
| SWEDEN | Giftinformationscentralen Swedish Poisons Information Centre, Karolinska Hospital | Box 60 500 SE-171 76 Stockholm | +46 8 33 12 31 (International) 112 (National) |
| SWITZERLAND | Centre Suisse d'Information Toxicologique | Freiestrasse 16 Postfach CH-8028 Zurich | +41 44 251 51 51 (International) 145 (National) |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Carc. 2 H351

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

**Adverse physicochemical, human health and environmental effects**

No additional information available

### 2.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :

GHS08

Signal word (CLP) : Warning

Hazardous ingredients : Carbon black

Hazard statements (CLP) : H351 - Suspected of causing cancer (if inhaled)

Precautionary statements (CLP) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear 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

PBT: not yet assessed

vPvB: not yet assessed

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| 2',4'-dimethylacetoacetanilide | (CAS No) 97-36-9<br>(EC no) 202-576-0 | 0 – 90 | Acute Tox. 4 (Oral), H302 |
| Carbon black | (CAS No) 1333-86-4<br>(EC no) 215-609-9 | 0.1 – 15 | Carc. 2, H351 |
| Polyethylene Glycol | (CAS No) 25322-68-3<br>(EC no) 500-038-2 | 0 – 2 | Not classified |
| butyl 4-hydroxybenzoate | (CAS No) 94-26-8<br>(EC no) 202-318-7 | 0 – 2 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |

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.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : Gently wash with plenty of soap and water.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.

First-aid measures after ingestion : 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 : May cause cancer by inhalation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : No particular fire or explosion hazard.

### 5.3. Advice for firefighters

Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses.

Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing. EN469.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid creating or spreading dust.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable gloves.

Emergency procedures : Stop leak if safe to do so. 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.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

### 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. Do not handle until all safety precautions have been read and understood. Avoid creating or spreading dust.

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

Incompatible products : Strong acids. Strong bases. Strong oxidizers.

Heat and ignition sources : Keep away from heat, sparks and flame.

Prohibitions on mixed storage : 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

| Carbon black (1333-86-4) | | |
|---|---|---|
| Belgium | Limit value (mg/m³) | 3.5 mg/m³ |
| Denmark | Grænseværdie (langvarig) (mg/m³) | 3.5 mg/m³ |
| Denmark | Anmærkninger (DK) | K |
| Finland | HTP-arvo (8h) (mg/m³) | 3.5 mg/m³ |
| Finland | HTP-arvo (15 min) | 7 mg/m³ |
| France | VME (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (8 hours ref) (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (15 min ref) (mg/m3) | 7 mg/m³ |
| Spain | VLA-ED (mg/m³) | 3.5 mg/m³ |
| Sweden | nivågränsvärde (NVG) (mg/m³) | 3 mg/m³ |
| United Kingdom | Local name | Carbon black |
| United Kingdom | WEL TWA (mg/m³) | 3.5 mg/m³ |
| United Kingdom | WEL STEL (mg/m³) | 7 mg/m³ |
| Norway | Grenseverdier (AN) (mg/m³) | 3.5 mg/m³ |

| Polyethylene Glycol (25322-68-3) | | |
|---|---|---|
| Austria | MAK (mg/m³) | 1000 mg/m³ (einatembare Fraktion) |
| Austria | MAK Short time value (mg/m³) | 4000 mg/m³ max. 4x15 min./Schicht (einatembare Fraktion) |
| Denmark | Grænseværdie (langvarig) (mg/m³) | 1000 mg/m³ |
| Denmark | Grænseværdie (kortvarig) (mg/m³) | 2000 mg/m³ |
| Denmark | Anmærkninger (DK) | (Polyethylenglycol (PEG) med middelmolvægt på 200-600) |
| Germany | TRGS 900 Occupational exposure limit value (mg/m³) | 1000 mg/m³ |
| Germany | TRGS 900 Limitation of exposure peaks (mg/m³) | 8000 mg/m³ |
| Germany | Remark (TRGS 900) | (einatembare Fraktion) |
| Slovakia | NPHV (priemerná) (mg/m³) | 1000 mg/m³ |
| Slovakia | Upozornenie (SK) | krátkodobý: kategória II. |
| Switzerland | VME (ppm) | 1000 ppm |
| Switzerland | Remark (CH) | (mittlere Molmasse 200–600) |

### 8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Use rubber gloves. EN374.

Eye protection : EN166. In case of dust production: protective goggles.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Use air-purifying respirator equipped with particulate filtering cartridges. EN 12083.

Environmental exposure controls : Prevent leakage or spillage.

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 | : No data available |
| 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 |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| 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

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Heat.

### 10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO2).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute toxicity** : Not classified

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| LD50 oral rat | 1995 mg/kg |
| ATE CLP (oral) | 1995.000 mg/kg bodyweight |

| **butyl 4-hydroxybenzoate (94-26-8)** | |
|---|---|
| LD50 oral rat | 13200 mg/kg |
| ATE CLP (oral) | 13200.000 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 |

| Polyethylene Glycol (25322-68-3) | |
|---|---|
| LD50 oral rat | 47000 mg/kg |
| LD50 dermal rat | > 20000 mg/kg |
| ATE CLP (oral) | 47000.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified

**Serious eye damage/irritation** : Not classified

**Respiratory or skin sensitisation** : Not classified

**Germ cell mutagenicity** : Not classified

**Carcinogenicity** : Suspected of causing cancer (if inhaled).

**Reproductive toxicity** : Not classified

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

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

**Aspiration hazard** : Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| LC50 fish 1 | 250 (250 - 350) mg/l |

| Polyethylene Glycol (25322-68-3) | |
|---|---|
| LC50 fish 1 | > 100 mg/l |
| LC50 other aquatic organisms 1 | 1000 mg/l |

### 12.2. Persistence and degradability

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| Biodegradation | 25 % 28 d |

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

### 12.3. Bioaccumulative potential

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| Log Pow | 1.4 |

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

| Tempilstik® 185 °F (85 °C), 188 °F (87 °C), 250 °F (121 °C), 425 °F (218 °C), 428 °F (220 °C), 1250 °F (677 °C), 248 °F (120 °C) |
|---|
| PBT: not yet assessed |
| vPvB: not yet assessed |

### 12.6. 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.

European List of Waste (LoW) code : For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

H code : H7 - 'Carcinogenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

**14.1. UN number**

Not considered a dangerous good for transport regulations

**14.2. UN proper shipping name**

Proper Shipping Name (ADR) :

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Other information : No supplementary information available.

**14.6. Special precautions for user**

**14.6.1. Overland transport**

No additional information available

**14.6.2. Transport by sea**

No additional information available

**14.6.3. Inland waterway transport**

Carriage prohibited (ADN) : No

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**15.1.1. EU-Regulations**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 0 %

**15.1.2. National regulations**

**Germany**

Water hazard class (WGK) : 1 - low hazard to waters

WGK remark : Classification based on the components in compliance withVerwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

## SECTION 16: Other information

according to Regulation (EU) 2015/830

Indication of changes:
Added product

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 Weighted Average |

| | |
|---|---|
| | TSCA: Toxic Substances Control Act |

Data sources : ESIS (European chemincal Substances Information System; accessed at: http://esis.jrc.ec.europa.eu/index.php?PGM=cla.

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.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of R-, H- and EUH-statements:

| | |
|---|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H351 | Suspected of causing cancer |

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| | | |
|---|---|---|
| Carc. 2 | H351 | Calculation method |

LA-CO EU CLP SDS


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


*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*

TEM 0300

# Tempilstik® 300 °F (149 °C), 302 °F (150 °C), 306 °F (152 °C), 313 °F (156 °C), 525 °F (274 °C), 536 °F (280 °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: 04/22/2015
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® 300 °F (149 °C), 302 °F (150 °C), 306 °F (152 °C), 313 °F (156 °C), 525 °F (274 °C), 536 °F (280 °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**

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

### 2.2 Label elements

**GHS-US labelling**

Hazard statements (GHS-US) : H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS-US) : P273 - Avoid release to the environment
P501 - Dispose of contents/container to an authorised waste collection point

### 2.3. Other hazards

No additional information available

### 2.4 Unknown acute toxicity (GHS US)

86.22 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
86.22 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
86.22 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 |
|---|---|---|---|
| 1,1,1 Tris Ethane | (CAS No) 27955-94-8 | 6.36 – 6.42 : 300 °F<br>6.38 – 6.44 : 302 °F<br>4.34 – 4.39 : 306 °F<br>2.76 – 2.79 : 313 °F<br>10.53 – 10.64 : 525 °F<br>6.55 – 6.62 : 536 °F | Aquatic Chronic 2, H411 |
| adipic acid | (CAS No) 124-04-9 | 1.38 : 300 °F<br>1.21 : 302 °F | Eye Irrit. 2A, H319 |

.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. 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 : In case of contact, immediately flush eyes with plenty of water.

First-aid measures after ingestion : Do NOT induce vomiting. Get medical advice/attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

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

Treat symptomatically.

## 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. 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.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Do not discharge into drains or 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

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

| Tempilstik® 300 °F (149 °C), 302 °F (150 °C), 306 °F (152 °C), 313 °F (156 °C), 525 °F (274 °C), 536 °F (280 °C) | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| adipic acid (124-04-9) | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |
| ACGIH | Remark (ACGIH) | URT irr; ANS impair |
| OSHA | Not applicable | |
| Canada (Quebec) | VEMP (mg/m³) | 5 mg/m³ |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 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 | : In case of repeated or prolonged contact wear gloves. Dust impervious gloves. |
| Eye protection | : In case of dust production: protective goggles. |
| 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

| | |
|---|---|
| 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 | : No data available |

Oxidising properties : No data available

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. 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

| 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 |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg bodyweight |
| LD50 dermal rat | > 2000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified

**Serious eye damage/irritation** : Not classified

**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**

Likely routes of exposure : Inhalation;Skin and eye contact

## 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 |

### 12.2. Persistence and degradability

| Tempilstik® 300 °F (149 °C), 302 °F (150 °C), 306 °F (152 °C), 313 °F (156 °C), 525 °F (274 °C), 536 °F (280 °C) | |
|---|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |

| adipic acid (124-04-9) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | 90 % 5 d |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Persistence and degradability | Not readily biodegradable. |
| Biodegradation | 8 % |

### 12.3. Bioaccumulative potential

| adipic acid (124-04-9) | |
|---|---|
| BCF fish 1 | 3.162 |
| Log Pow | 0.093 |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Log Kow | 3.88 |

### 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 by sea**

No additional information available

**Air transport**

No additional information available

## 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 |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | P - P - indicates a commenced PMN substance. |

### 15.2. International regulations

**CANADA**

| adipic acid (124-04-9) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| 1,1,1 Tris Ethane (27955-94-8) |
|---|
| Listed on the Canadian NDSL (Non-Domestic Substances List) |

**EU-Regulations**

| adipic acid (124-04-9) |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| 1,1,1 Tris Ethane (27955-94-8) |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| Tempilstik® 300 °F (149 °C), 302 °F (150 °C), 306 °F (152 °C), 313 °F (156 °C), 525 °F (274 °C), 536 °F (280 °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**

| adipic acid (124-04-9) |
|---|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) 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.

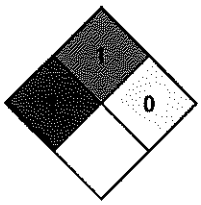
TSCA: Toxic Substances Control Act.

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-phrases:

| | |
|---|---|
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment — Chronic Hazard, Category 3 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| H319 | Causes serious eye irritation |
| H411 | Toxic to aquatic life with long lasting effects |
| H412 | Harmful to aquatic life with long lasting effects |


**SDS Prepared by:** The Redstone Group, LLC
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Dublin, OH USA 43016
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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*

TEM 0350

LA-CO Industries, Inc.

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

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 03/11/2015 Revision date: : Version: 1.0

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

### 1.1. Product identifier

Product form : Mixture

Trade name : Templstik® 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

#### 1.2.1. Relevant identified uses

Main use category : Industrial use

Use of the substance/mixture : Temperature indicator

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

LA-CO Industries Europe S.A.S.
Parc Industriel de la Plaine de
l'Ain - Allée des Combes.
01150.BLYES.France.
Phone: +33 (0)4 74 46 23 23
Fax: +33 (0)4 74 46 23 29
E-mail: info@eu.laco.com
Web: http://www.markal.com

### 1.4. Emergency telephone number

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

| EU Member State | Officieel adviesorgaan | Adres | Noodnummer |
|---|---|---|---|
| AUSTRIA | Vergiftungsinformationszentrale (Poisons Information Centre) | Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien | +43 1 406 43 43 |
| BELARUS | The Belarus Republican Poisons Centre | Kizhevatova str. 58 220115 Minsk | +375 (0)17 201 9158 |
| BELGIUM | Centre Anti-Poisons/Antigifcentrum c/o Hôpital Central de la Base - Reine Astrid | Rue Bruyn 1 B -1120 Bruxelles/Brussel | +32 70 245 245 |
| BULGARIA | Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov" | 21 Totleben Boulevard 1606 SOFIA | +359 2 9154 409 |
| CROATIA | Poisons Control Centre Institute of Medical Research & Occupational Health | Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb | +385 1 234 8342 |
| CZECH REPUBLIC | Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University | Na Bojišti 1 120 00 Praha 2 | +42 2 2491 9293 +42 2 2491 5402 |
| DENMARK | Giftlinjen Bispebjerg Hospital | Bispebjerg Bakke 23, 60, 1 DK-2400 København NV | +45 82 12 12 12 +45 35 31 55 55 |
| ESTONIA | Mürgistusteabekeskus | Gonsiori 29 15027 Tallinn | +372 626 93 90 |
| FINLAND | Myrkytystietokeskus | P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki | +358 9 471 977 |
| FRANCE | ORFILA | | +33 1 45 42 59 59 |
| GERMANY | Berliner Betrieb für Zentrale Gesundheitliche Aufgaben | Oranienburger Strasse 285 13437 Berlin | +49 30 19240 |
| GERMANY | Informations und Beratungszentrum für Vergiftungsfälle | Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar | +49 6841 19240 |
| GERMANY | Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen | Langenbeckstrasse 1 55131 Mainz | +49 6131 19240 |
| GREECE | Poisons Information Centre | 11527 Athens | +30 10 779 3777 |
| HUNGARY | Országos Kémiai Biztonsági Intézet (National Institute of Chemical Safety) Egészségügyi Toxikológiai Tájékoztató Szolgálat (Health Toxicological Information Service) | 1437 Budapest PO Box 839 1097 Budapest, Nagyvárad tér 2 | +36 80 20 11 99 |
| ICELAND | Eitrunarmiðstöðin | Eitrunarmiðstöðin 108 Reykjavik | +354 543 22 22 |

| | | | |
|---|---|---|---|
| IRELAND | National Poisons Information Centre | Beaumont Hospital PO Box 1297 Beaumont Road 9 Dublin | +353 1 809 2166 |
| LATVIA | Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs | 2 Hipocrate Street LV 1038 Riga | +371 67 04 24 73 |
| LITHUANIA | Apsinuodijimų kontrolės ir informacijos biuras | Silinamiu 29 2043 Vilnius | +370 5 236 20 52/+370 687 53 378 |
| MALTA | Medicines & Poisons Info Office | Mater Dei Hospital, Msida MSD 2090 Malta | 25450000 |
| NETHERLANDS | Nationaal Vergiftigingen Informatie Centrum National Institute for Public Health and the Environment, NB this service is only available to health professionals | Huispostnummer B.00.118, PO Box 85500 3508 GA Utrecht | +31 30 274 88 88 |
| PORTUGAL | Centro de Informação Antivenenos Instituto Nacional de Emergência Médica (INEM) | Rua Almirante Barroso, 36 1000-013 Lisboa | 808 250 143 (for use only in Portugal), +351 21 330 3284 |
| ROMANIA | Biroul pentru Regulamentul Sanitar International si Informare Toxicologica | Str. Dr. Leonte Anastasievici Nr.1-3, Sector 5 50463 Bucuresti | +40 21 318 36 06 |
| SLOVAKIA | Národné toxikologické informačné centrum University Hospital Bratislava | Limbová 5 833 05 Bratislava | +421 2 54 77 4 166 |
| SPAIN | Servicio de Información Toxicológica Instituto Nacional de Toxicología, Departamento de Madrid | Calle Luis Cabrera 9 E-28002 Madrid | +34 91 562 04 20 |
| SWEDEN | Giftinformationscentralen Swedish Poisons Information Centre, Karolinska Hospital | Box 60 500 SE-171 76 Stockholm | +46 8 33 12 31 (International) 112 (National) |
| SWITZERLAND | Centre Suisse d'Information Toxicologique | Freiestrasse 16 Postfach CH-8028 Zurich | +41 44 251 51 51 (International) 145 (National) |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

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

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

**Adverse physicochemical, human health and environmental effects**

May cause cancer. May cause genetic defects. May cause slight eye,skin and respiratory system irritation.

### 2.2. Label elements

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP) : Warning

Hazardous ingredients : hymecromone, Molybdenum trioxide, potassium molybdate, dilithium molybdate

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

Precautionary statements (CLP) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust, fume
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 poison center or 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

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

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Comments : Only component with health hazards above the applicable thresholds and/or Exposure Limit values are shown.

Exact concentrations are withheld as trade secret.

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|---|---|
| hymecromone | (CAS No) 90-33-5<br>(EC no) 201-986-7 | 0 – 85 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| Molybdenum trioxide | (CAS No) 1313-27-5<br>(EC no) 215-204-7<br>(EC index no) 042-001-00-9 | 0 – 60 | Eye Irrit. 2, H319<br>Carc. 2, H351<br>STOT SE 3, H335 |
| dilithium molybdate | (CAS No) 13568-40-6<br>(EC no) 236-977-7 | 0 – 40 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| potassium molybdate | (CAS No) 13446-49-6<br>(EC no) 236-599-2 | 0 – 40 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335 |
| Carbon black | (CAS No) 1333-86-4<br>(EC no) 215-609-9 | 0 – 1 | Carc. 2, H351 |
| barium sulfate | (CAS No) 7727-43-7<br>(EC no) 231-784-4 | 0 – 0.1 | Not classified |
| Methyl acetate | (CAS No) 79-20-9<br>(EC no) 201-185-2<br>(EC index no) 607-021-00-X | 0 – 0.1 | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336 |

Full text of R- and 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.

Hazardous decomposition products in case of fire : Thermal decomposition generates : Carbon dioxide. Carbon monoxide. Mixture of hydrocarbons.

### 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. EN469.

## 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

| Carbon black (1333-86-4) | | |
|---|---|---|
| Belgium | Limit value (mg/m³) | 3.5 mg/m³ |
| Denmark | Grænseværdie (langvarig) (mg/m³) | 3.5 mg/m³ |
| Denmark | Anmærkninger (DK) | K |
| Finland | HTP-arvo (8h) (mg/m³) | 3.5 mg/m³ |

| | | |
|---|---|---|
| **Carbon black (1333-86-4)** | | |
| Finland | HTP-arvo (15 min) | 7 mg/m³ |
| France | VME (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (8 hours ref) (mg/m³) | 3.5 mg/m³ |
| Ireland | OEL (15 min ref) (mg/m3) | 7 mg/m³ |
| Spain | VLA-ED (mg/m³) | 3.5 mg/m³ |
| Sweden | nivågränsvärde (NVG) (mg/m³) | 3 mg/m³ |
| United Kingdom | Local name | Carbon black |
| United Kingdom | WEL TWA (mg/m³) | 3.5 mg/m³ |
| United Kingdom | WEL STEL (mg/m³) | 7 mg/m³ |
| Norway | Grenseverdier (AN) (mg/m³) | 3.5 mg/m³ |
| **barium sulfate (7727-43-7)** | | |
| Belgium | Limit value (mg/m³) | 10 mg/m³ |
| Belgium | Remark (BE) | (sulfate de) |
| Ireland | OEL (8 hours ref) (mg/m³) | 2 mg/m³ |
| Slovakia | NPHV (priemerná) (mg/m³) | 1.5 mg/m³ (respirabilná frakcia)<br>4 mg/m³ (inhalovate¾ná frakcia) |
| Spain | VLA-ED (mg/m³) | 10 mg/m³ |
| Spain | Notes | e |
| United Kingdom | WEL TWA (mg/m³) | 10 mg/m³ inhalable aerosol<br>4 mg/m³ respirable aerosol |
| **Molybdenum trioxide (1313-27-5)** | | |
| Finland | Huomautus (FI) | Mo |
| **Methyl acetate (79-20-9)** | | |
| Denmark | Grænseværdie (kortvarig) (mg/m³) | 910 mg/m³ |
| Denmark | Grænseværdie (kortvarig) (ppm) | 300 ppm |
| Germany | TRGS 900 Limitation of exposure peaks (mg/m³) | 2440 mg/m³ |
| Germany | TRGS 900 Limitation of exposure peaks (ppm) | 800 ppm |
| Slovakia | NPHV (priemerná) (mg/m³) | 310 mg/m³ |
| Slovakia | NPHV (priemerná) (ppm) | 100 ppm |
| Spain | VLA-ED (mg/m³) | 616 mg/m³ |
| Spain | VLA-ED (ppm) | 200 ppm |
| Spain | VLA-EC (mg/m³) | 770 mg/m³ |
| Spain | VLA-EC (ppm) | 250 ppm |

### 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. EN 374.

Eye protection : No special eye protection equipment recommended under normal conditions of use. In case of dust production: protective goggles. EN 166.

Skin and body protection : Wear suitable protective clothing. Impervious clothing. EN702.

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. EN 12083.

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) | : Non flammable |
| 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 |
| 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 (Based on available data, the classification criteria are not met)

| **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 |

| **barium sulfate (7727-43-7)** | |
|---|---|
| LD50 oral rat | 307 g/kg |
| LD50 dermal rat | > 2000 mg/kg |
| ATE CLP (oral) | 307000.000 mg/kg bodyweight |

| **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. |

| **barium sulfate (7727-43-7)** | |
|---|---|
| NOAEL (chronic, oral, animal/male, 2 years) | 60 mg/kg bodyweight |
| NOAEL (chronic, oral, animal/female, 2 years) | 75 mg/kg bodyweight |

| | |
|---|---|
| **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 |

## SECTION 12: Ecological information

### 12.1. Toxicity

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

| **barium sulfate (7727-43-7)** | |
|---|---|
| LC50 fish 1 | > 3.5 mg/l 96 h |
| EC50 Daphnia 1 | 14500 µg/l 48 h |

| **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. |

| **barium sulfate (7727-43-7)** | |
|---|---|
| BCF fish 1 | 68.4 L/kg |

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

| **Tempilstik® 348 °F (175 °C), 350 °F (177 °C), 850 °F (454 °C), 900 °F (482 °C), 1040 °F (560 °C)** |
|---|
| PBT: not yet assessed |
| vPvB: not yet assessed |

### 12.6. 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. |
| European List of Waste (LoW) code | : For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.<br>20 01 27* - paint, inks, adhesives and resins containing dangerous substances |
| H code | : H4 - 'Irritant': non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation.<br>H7 - 'Carcinogenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence. |

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

**14.1. UN number**

Not considered a dangerous good for transport regulations

**14.2. UN proper shipping name**

Proper Shipping Name (ADR) :

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Other information : No supplementary information available.

**14.6. Special precautions for user**

**14.6.1. Overland transport**

No additional information available

**14.6.2. Transport by sea**

No additional information available

**14.6.3. Inland waterway transport**

Carriage prohibited (ADN) : No

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**15.1.1. EU-Regulations**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 0 %

**15.1.2. National regulations**

**Germany**

Water hazard class (WGK) : 3 - severe hazard to waters

WGK remark : Classification based on the R-phrases in compliance withVerwaltungsvorschrift wassergefährdender Stoffe (VwVwS)

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

## SECTION 16: Other information

according to Regulation (EU) 2015/830

Indication of changes:
Original Document.

Abbreviations and acronyms:

| | |
|---|---|
| | ACGIH (American Conference of Government Industrial Hygienists) |
| | ATE: Acute Toxicity Estimate |
| | CAS (Chemical Abstracts Service) number |
| | CLP: Classification, Labelling, Packaging. |
| | DNEL: Derived No Effect Level |
| | 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 |
| | NOEC: No Observable Effect Concentration |

| | |
|---|---|
| | OSHA: Occupational Safety & Health Administration |
| | PBT: Persistent, Bioaccumulative, Toxic |
| | PNEC: Predicted No Effect Level |
| | STEL: Short Term Exposure Limits |
| | TSCA: Toxic Substances Control Act |
| | TWA: Time Weighted Average |

Data sources : ESIS (European chemincal Substances Information System; accessed at: http://esis.jrc.ec.europa.eu/index.php?PGM=cla.

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.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of R-, H- and EUH-statements:

| | |
|---|---|
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquids, Category 2 |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| H225 | Highly flammable liquid and vapour |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H351 | Suspected of causing cancer |
| R11 | Highly flammable |
| R20 | Harmful by inhalation |
| R36 | Irritating to eyes |
| R36/37 | Irritating to eyes and respiratory system |
| R36/37/38 | Irritating to eyes, respiratory system and skin |
| R40 | Limited evidence of a carcinogenic effect |
| R52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R66 | Repeated exposure may cause skin dryness or cracking |
| R67 | Vapours may cause drowsiness and dizziness |
| F | Highly flammable |
| Xi | Irritant |
| Xn | Harmful |

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| | | |
|---|---|---|
| Skin Irrit. 2 | H315 | Calculation method |
| Eye Irrit. 2 | H319 | Calculation method |
| Carc. 2 | H351 | Calculation method |
| STOT SE 3 | H335 | Calculation method |

LA-CO EU CLP SDS


**SDS Prepared by:** The Redstone Group, LLC
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Dublin, OH USA 43016
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www.redstonegrp.com

*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*

TEM 0402
TEM 0450

# Tempilstik® : 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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: 04/22/2015
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® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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**

Not classified

### 2.2 Label elements

**GHS-US labelling**

No labelling applicable

### 2.3. Other hazards

No additional information available

### 2.4 Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| 2',4'-dimethylacetoacetanilide | (CAS No) 97-36-9 | 84.79 : 182 °F | Acute Tox. 4 (Oral), H302 |
| adipic acid | (CAS No) 124-04-9 | 6.38 : 383 °F<br>4.67 : 388 °F<br>4.71 : 392 °F | Eye Irrit. 2A, H319 |
| salicylamide | (CAS No) 65-45-2 | 8.24 : 206 °F | Acute Tox. 4 (Oral), H302 |

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| Iron oxide red | (CAS No) 1309-37-1 | 1.69 : 263 °F<br>0.21 – 0.3 : 320 °F<br>0.79 : 1400 °F<br>0.84 – 1.22 : 1600 °F<br>1.52 : 1950 °F | Aquatic Chronic 2, H411 |
| butyl 4-hydroxybenzoate | (CAS No) 94-26-8 | 0.91 : 182 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| phenyl salicylate | (CAS No) 118-55-8 | 4.1 – 4.14 : 104 °F | Skin Irrit. 2, H315<br>Eye Irrit. 2A, H319<br>STOT SE 3, H335 |
| lithium sulphate | (CAS No) 10377-48-7 | 1.9 : 1500 °F<br>1.88 : 1600 °F | Acute Tox. 4 (Oral), H302 |

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. 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 : Wash with plenty of soap and water.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water.

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 : May cause respiratory irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

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

Treat symptomatically.

## 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. 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.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

| | |
|---|---|
| Protective equipment | : Wear suitable 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

| | |
|---|---|
| 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

| **Tempilstik® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °C)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **phenyl salicylate (118-55-8)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **butyl 4-hydroxybenzoate (94-26-8)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **salicylamide (65-45-2)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| **Iron oxide red (1309-37-1)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |

| **Iron oxide red (1309-37-1)** | | |
|---|---|---|
| ACGIH | Remark (ACGIH) | Pneumoconiosis |
| OSHA | OSHA PEL (TWA) (mg/m³) | 10 mg/m³ |
| Canada (Quebec) | VEMP (mg/m³) | 5 mg/m³ (Fer, trioxyde de, fumées et poussières (exprimée en Fe))<br>10 mg/m³ (Rouge) |

| **adipic acid (124-04-9)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 5 mg/m³ |
| ACGIH | Remark (ACGIH) | URT irr; ANS impair |
| OSHA | Not applicable | |
| Canada (Quebec) | VEMP (mg/m³) | 5 mg/m³ |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 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.

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

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 : No data available

Oxidising properties : No data available

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. 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** : Oral: Not classified.

| **phenyl salicylate (118-55-8)** | |
|---|---|
| LD50 oral rat | 3000 mg/kg |
| ATE CLP (oral) | 3000.000 mg/kg bodyweight |

| **butyl 4-hydroxybenzoate (94-26-8)** | |
|---|---|
| LD50 oral rat | 13200 mg/kg |
| ATE CLP (oral) | 13200.000 mg/kg bodyweight |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| LD50 oral rat | 1995 mg/kg |
| ATE CLP (oral) | 1995.000 mg/kg bodyweight |

| **salicylamide (65-45-2)** | |
|---|---|
| LD50 oral rat | 1400 mg/kg |
| ATE CLP (oral) | 1400.000 mg/kg bodyweight |

| **Iron oxide red (1309-37-1)** | |
|---|---|
| LD50 oral rat | > 10000 mg/kg |

| **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 |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| LD50 oral rat | 613 mg/kg |
| ATE CLP (oral) | 613.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified
**Serious eye damage/irritation** : Not classified.
**Respiratory or skin sensitisation** : Not classified
**Germ cell mutagenicity** : Not classified
**Carcinogenicity** : Not classified.

| **Iron oxide red (1309-37-1)** | |
|---|---|
| IARC group | 3 - Not classifiable |
| National Toxicology Program (NTP) Status | Not listed in carcinogenicity class |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| NOAEL (chronic, oral, animal/male, 2 years) | 15 mg/kg bodyweight |

**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 : May cause respiratory irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Likely routes of exposure : Inhalation;Skin and eye contact

## SECTION 12: Ecological information

**12.1 Toxicity**

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| LC50 fish 1 | 250 (250 - 350) mg/l |

| **salicylamide (65-45-2)** | |
|---|---|
| LC50 fish 1 | 101 mg/l 96 h |
| EC50 Daphnia 1 | 75 mg/l 24 h |

| **Iron oxide red (1309-37-1)** | |
|---|---|
| EC50 Daphnia 1 | > 100 mg/l |

| **adipic acid (124-04-9)** | |
|---|---|
| LC50 fish 1 | >= 1000 mg/l 96 h |
| EC50 Daphnia 1 | 46 mg/l 48 h |

| **lithium sulphate (10377-48-7)** | |
|---|---|
| LC50 fish 1 | 30.3 mg/l read-across, 96 h |
| EC50 Daphnia 1 | 33.2 mg/l read across, 48 h |
| LOEC (chronic) | 24.35 mg/l read-across lithium hydroxide monohydrate |
| NOEC (chronic) | 17.35 mg/l read-across lithium hydroxide monohydrate |

**12.2. Persistence and degradability**

| **phenyl salicylate (118-55-8)** | |
|---|---|
| Persistence and degradability | Moderately biodegradable. |

| **2',4'-dimethylacetoacetanilide (97-36-9)** | |
|---|---|
| Biodegradation | 25 % 28 d |

| **salicylamide (65-45-2)** | |
|---|---|
| Biodegradation | 99 % 28 d |

| **adipic acid (124-04-9)** | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | 90 % 5 d |

**12.3. Bioaccumulative potential**

| **phenyl salicylate (118-55-8)** | |
|---|---|
| Log Pow | 3.82 |
| Bioaccumulative potential | Not established. |

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| Log Pow | 1.4 |

| salicylamide (65-45-2) | |
|---|---|
| Log Pow | 1.31 |

| adipic acid (124-04-9) | |
|---|---|
| BCF fish 1 | 3.162 |
| Log Pow | 0.093 |

| lithium sulphate (10377-48-7) | |
|---|---|
| Log Pow | -4.38 |

**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**

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

## 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 by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

| phenyl salicylate (118-55-8) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| butyl 4-hydroxybenzoate (94-26-8) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| 2',4'-dimethylacetoacetanilide (97-36-9) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| salicylamide (65-45-2) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| Iron oxide red (1309-37-1) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| 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 |

| lithium sulphate (10377-48-7) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

### 15.2. International regulations

**CANADA**

| |
|---|
| **phenyl salicylate (118-55-8)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **butyl 4-hydroxybenzoate (94-26-8)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **2',4'-dimethylacetoacetanilide (97-36-9)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **salicylamide (65-45-2)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **Iron oxide red (1309-37-1)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **adipic acid (124-04-9)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |
| **lithium sulphate (10377-48-7)** |
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

**EU-Regulations**

| |
|---|
| **phenyl salicylate (118-55-8)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **butyl 4-hydroxybenzoate (94-26-8)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **2',4'-dimethylacetoacetanilide (97-36-9)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **salicylamide (65-45-2)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **Iron oxide red (1309-37-1)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **adipic acid (124-04-9)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |
| **lithium sulphate (10377-48-7)** |
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| |
|---|
| **Tempilstik® 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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

| |
|---|
| **Iron oxide red (1309-37-1)** |
| U.S. - Minnesota - Hazardous Substance List<br>U.S. - New Jersey - Right to Know Hazardous Substance List |
| **adipic acid (124-04-9)** |
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

T 1

# Tempilstik® : 104 °F (40 °C), 131 °F (55 °C), 182 °F (83 °C), 200 °F (93 °C), 206 °F (97 °C), 213 °F (101 °C), 219 °F (104 °C), 225 °F (107 °C), 256 °F (124 °C), 263 °F (128 °C), 320 °F (160 °C), 325 °F (163 °C), 329 °F (165 °C), 383 °F (195 °C), 388 °F (198 °C), 392 °F (200 °C), 400 °F (204 °C), 413 °F (212 °C), 419 °F (215 °C), 550 °F (288 °C), 1400 °F (760 °C), 1450 °F (788 °C), 1500 °F (816 °C), 1550 °F (843 °C), 1600 °F (871 °C), 1650 °F (899 °C), 1700 °F (927 °C), 1800 °F (982 °C), 1900 °F (1038 °C), 1950 °F (1066 °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 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.

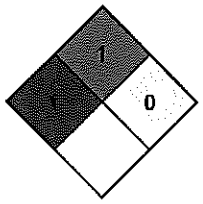
TSCA: Toxic Substances Control Act.

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-phrases:

| | |
|---|---|
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Carc. 1A | Carcinogenicity, Category 1A |
| 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 |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H350 | May cause cancer |
| H411 | Toxic to aquatic life with long lasting effects |

**SDS Prepared by:** The Redstone Group, LLC
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Dublin, OH USA 43016
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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*

TEM 0500

# Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °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: 06/18/2015
Revision date: 12/30/2015
Version: 2.0

## 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

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**

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

| Name | Product identifier | % (w/w) | GHS classification |
|---|---|---|---|
| Phenolphthalein | (CAS No) 77-09-8 | 96.66 : 488 °F, 482 °F<br>98.04 : 500 °F | Muta. 2, H341<br>Carc. 1B, H350<br>Repr. 2, H361 |
| 1,1,1 Tris Ethane | (CAS No) 27955-94-8 | 1.86 : 488 °F, 482 °F | Aquatic Chronic 2, H411 |

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

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. 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

| Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °C) | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| Phenolphthalein (77-09-8) | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 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

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 | : No data available |
| Oxidising properties | : No data available |
| 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. 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

| Phenolphthalein (77-09-8) | |
|---|---|
| LD50 oral rat | > 2000 mg/kg bodyweight |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| LD50 oral rat | > 5000 mg/kg bodyweight |
| LD50 dermal rat | > 2000 mg/kg bodyweight |

**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.

| Phenolphthalein (77-09-8) | |
|---|---|
| IARC group | 2B - Possibly carcinogenic to humans |
| National Toxicology Program (NTP) Status | 3 - Reasonably anticipated to be Human Carcinogen |

**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**

| Phenolphthalein (77-09-8) | |
|---|---|
| EC50 Daphnia 1 | > 100 mg/l |

### 12.2. Persistence and degradability

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Persistence and degradability | Not readily biodegradable. |
| Biodegradation | 8 % |

### 12.3. Bioaccumulative potential

| Phenolphthalein (77-09-8) | |
|---|---|
| Log Kow | 2.4 |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Log Kow | 3.88 |

### 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.

## 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 by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| EPA TSCA Regulatory Flag | P - P - indicates a commenced PMN substance. |

| Phenolphthalein (77-09-8) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

| 1,1,1 Tris Ethane (27955-94-8) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | P - P - indicates a commenced PMN substance. |

### 15.2. International regulations

**CANADA**

| Phenolphthalein (77-09-8) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| 1,1,1 Tris Ethane (27955-94-8) |
|---|
| Listed on the Canadian NDSL (Non-Domestic Substances List) |

**EU-Regulations**

| Phenolphthalein (77-09-8) |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| 1,1,1 Tris Ethane (27955-94-8) |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| Tempilstik® 488 °F (253 °C), 500 °F (260 °C), 482 °F (250 °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**

| Phenolphthalein (77-09-8) | | | | |
|---|---|---|---|---|
| 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 | No significant risk level (NSRL) |
| Yes | No | No | No | |

| 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 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.

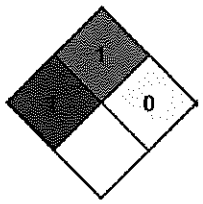
TSCA: Toxic Substances Control Act.

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:

| | |
|---|---|
| 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
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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*

TEM 0600

# Tempilstik® 600 °F (316 °C), 608 °F (320 °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: 04/20/2015
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® 600 °F (316 °C), 608 °F (320 °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**

| | |
|---|---|
| Acute Tox. 4 (Oral) | H302 |
| Eye Irrit. 2A | H319 |
| Skin Sens. 1 | H317 |
| Carc. 1A | H350 |

Full text of H-phrases: see section 16

### 2.2 Label elements

**GHS labelling**

Hazard pictograms (GHS) :

GHS07 GHS08

Signal word (GHS) : Danger

Hazard statements (GHS) :
H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H350 - May cause cancer

Precautionary statements (GHS) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust, fume
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing must not be allowed out of the workplace
P280 - Wear eye protection, protective clothing, protective gloves
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
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
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
P333+P313 - If skin irritation or rash 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
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

| Name | Product identifier | % (w/w) | GHS classification |
|---|---|---|---|
| Fluorescein | (CAS No) 2321-07-5 | 81.31 – 86.05 | Acute Tox. 4 (Oral), H302<br>Eye Irrit. 2A, H319 |
| 1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated | (CAS No) 68002-25-5 | 4.47 | Flam. Liq. 3, H226<br>Acute Tox. 4 (Dermal), H312 |
| formaldehyde | (CAS No) 50-00-0 | 0.24 | Flam. Liq. 4, H227<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>Skin Corr. 1B, H314<br>Skin Sens. 1, H317<br>Carc. 1A, H350<br>STOT SE 3, H335 |

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. 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 : Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

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 : May cause cancer.

Symptoms/injuries after skin contact : May cause an allergic skin reaction.

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.

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

Treat symptomatically.

## 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. 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 : Chemical goggles or safety glasses. Wear suitable protective clothing and gloves.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Chemical goggles or safety glasses. 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 : Avoid breathing dust, fume. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

### 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

| **Tempilstik® 600 °F (316 °C), 608 °F (320 °C)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **Fluorescein (2321-07-5)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **formaldehyde (50-00-0)** | | |
|---|---|---|
| ACGIH | ACGIH Ceiling (mg/m³) | 0.37 mg/m³ |
| ACGIH | ACGIH Ceiling (ppm) | 0.3 ppm |
| ACGIH | Remark (ACGIH) | URT & eye irr; SEN; A2 |
| OSHA | OSHA PEL (TWA) (ppm) | 0.75 ppm |
| OSHA | OSHA PEL (STEL) (ppm) | 2 ppm |
| Canada (Quebec) | PLAFOND (mg/m³) | 3 mg/m³ |
| Canada (Quebec) | PLAFOND (ppm) | 2 ppm |
| Canada (Quebec) | Notations and remarks | (C2) |

| **1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated (68002-25-5)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 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 | : Chemical goggles or safety glasses. |
| 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

| | |
|---|---|
| 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 | : No data available |
| Oxidising properties | : No data available |
| 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. 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** : Oral: Harmful if swallowed.

| Tempilstik® 600 °F (316 °C), 608 °F (320 °C) | |
|---|---|
| ATE CLP (oral) | 674.303 mg/kg bodyweight |

| Fluorescein (2321-07-5) | |
|---|---|
| LD50 oral rat | 600 mg/kg |
| ATE CLP (oral) | 600.000 mg/kg bodyweight |

| formaldehyde (50-00-0) | |
|---|---|
| LC50 inhalation rat (ppm) | 31.7 ppm |
| ATE CLP (oral) | 100.000 mg/kg bodyweight |
| ATE CLP (dermal) | 300.000 mg/kg bodyweight |
| ATE CLP (dust,mist) | 0.500 mg/l/4h |

| 1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated (68002-25-5) | |
|---|---|
| LD50 oral rat | > 1100 mg/kg |
| LD50 dermal rabbit | 1800 mg/kg |
| LC50 inhalation rat (mg/l) | > 6 mg/l/4h |
| ATE CLP (dermal) | 1800.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Not classified

**Serious eye damage/irritation** : Causes serious eye irritation.

**Respiratory or skin sensitisation** : May cause an allergic skin reaction.

**Germ cell mutagenicity** : Not classified

**Carcinogenicity** : May cause cancer.

| formaldehyde (50-00-0) | |
|---|---|
| IARC group | 1 - Carcinogenic to humans |
| National Toxicology Program (NTP) Status | 2 - Known Human Carcinogens |

**Reproductive toxicity** : Not classified

**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**

Symptoms/injuries after skin contact : May cause an allergic skin reaction.

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.

Likely routes of exposure : Inhalation;Skin and eye contact

## SECTION 12: Ecological information

### 12.1 Toxicity

| formaldehyde (50-00-0) | |
|---|---|
| LC50 fish 1 | 31.8 (21.1 - 47.7) mg/l 96 h |
| EC50 Daphnia 1 | 1.9 mg/l 48 h |

### 12.2. Persistence and degradability

| formaldehyde (50-00-0) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

### 12.3. Bioaccumulative potential

| formaldehyde (50-00-0) | |
|---|---|
| BCF fish 1 | < 1 |
| Log Pow | 0.35 |

### 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.

## 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 by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

| **Fluorescein (2321-07-5)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| **formaldehyde (50-00-0)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 lb |
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard<br>Delayed (chronic) health hazard |
| SARA Section 313 - Emission Reporting | 0 % |

| **1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated (68002-25-5)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)). |

**15.2. International regulations**

**CANADA**

| **Fluorescein (2321-07-5)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **formaldehyde (50-00-0)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated (68002-25-5)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

**EU-Regulations**

| **Fluorescein (2321-07-5)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **formaldehyde (50-00-0)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **1,3,5-Triazine-2,4,6-triamine, polymer with formaldehyde, butylated (68002-25-5)** |
|---|
| Listed on ELINCS (European List of Notified Chemical Substances) |

**National regulations**

| **Tempilstik® 600 °F (316 °C), 608 °F (320 °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**

| formaldehyde (50-00-0) | | | | |
|---|---|---|---|---|
| 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 | No significance risk level (NSRL) |
| Yes | No | No | No | |

| formaldehyde (50-00-0) |
|---|
| U.S. - Minnesota - Hazardous Substance List |
| U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - New York - Right to Know List of Hazardous Chemicals |
| U.S. - Pennsylvania - List of Hazardous Substances |

## 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.

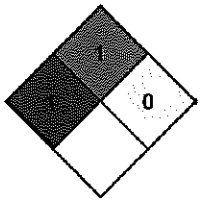
TSCA: Toxic Substances Control Act.

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-phrases:

| | |
|---|---|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation) | Acute toxicity (inhal.), Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Carc. 1A | Carcinogenicity, Category 1A |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Eye Irrit. 2A | Serious eye damage/eye irritation, Category 2A |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Flam. Liq. 4 | Flammable liquids, Category 4 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |
| Skin Sens. 1 | Sensitisation — Skin, category 1 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Narcosis |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H226 | Flammable liquid and vapour |
| H227 | Combustible liquid |

| | |
|---|---|
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H350 | May cause cancer |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LACO NA GHS SDS

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