

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

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

**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 cancerPrecautionary 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

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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 (EC no) 201-986-7	0 – 85	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Molybdenum trioxide	(CAS No) 1313-27-5 (EC no) 215-204-7 (EC index no) 042-001-00-9	0 – 60	Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335
dilithium molybdate	(CAS No) 13568-40-6 (EC no) 236-977-7	0 – 40	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
potassium molybdate	(CAS No) 13446-49-6 (EC no) 236-599-2	0 – 40	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
Carbon black	(CAS No) 1333-86-4 (EC no) 215-609-9	0 – 1	Carc. 2, H351
barium sulfate	(CAS No) 7727-43-7 (EC no) 231-784-4	0 – 0.1	Not classified
Methyl acetate	(CAS No) 79-20-9 (EC no) 201-185-2 (EC index no) 607-021-00-X	0 – 0.1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 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.

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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)		
United Kingdom	Local name	Carbon black

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Carbon black (1333-86-4)		
United Kingdom	WEL TWA (mg/m³)	3.5 mg/m³
United Kingdom	WEL STEL (mg/m³)	7 mg/m³
barium sulfate (7727-43-7)		
United Kingdom	WEL TWA (mg/m³)	10 mg/m³ inhalable aerosol 4 mg/m³ respirable aerosol

### 8.2. Exposure controls

Appropriate engineering controls	: 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 %
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## 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.

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### 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

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Persistence and degradability	May cause long-term adverse effects in the environment.

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### Carbon black (1333-86-4)

Persistence and degradability	Not readily biodegradable.
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#### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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### barium sulfate (7727-43-7)

BCF fish 1	68.4 L/kg
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

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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 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 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

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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 %

### 15.2. 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:

	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

: EIS (European chemical 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:

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

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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 United Kingdom

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