Tempilstik® 1022 °F (550 °C)

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
Issue date: 01-22-2025 Version: 1.0

SECTION 1 Identification

1.1. GHS Product identifier

Product form : Mixture
Trade name : Tempilstik® 1022 °F (550 °C)

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Temperature indicator

1.4. Supplier's details

LACO Industries
1201 Pratt Blvd.
Elk Grove Village, IL, 60007-5746
US
T 847-956-7600 - F 847-956-9885
customer_service@laco.com

1.5. Emergency phone number

Emergency number : 24-hour emergency: CHEMTREC- U.S. : 1-800-424-9300 International: +1-703-527-3887;
全国応急中心 0532 8388 9090

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation
Carcinogenicity, Category 2	H351	Suspected of causing cancer.
Specific target organ toxicity, Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. GHS label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :

Signal word (GHS CA) : Warning

Hazard statements (GHS CA) : H319 - Causes serious eye irritation
H351 - Suspected of causing cancer.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS CA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, vapours, spray.
P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
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 or attention.
P314 - Get medical advice or attention if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice or attention.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Molybdenum trioxide	molybdenum trioxide MO 1202T / molybdena / molybdenum anhydride / molybdenum oxide (MoO3) / molybdenum trioxide / molybdenum(VI)oxide / molybdenumperoxide / molybdic acid anhydride / molybdic acid anhydrous / molybdic anhydride / molybdic oxide / molybdic trioxide / molybdite,natural / natural molybdite	CAS-No.: 1313-27-5	10-30	Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

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

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Gently wash with plenty of soap and water. Wash skin with plenty of water.
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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a POISON CENTER or doctor/physician if you feel unwell. Call a poison center/doctor/physician if you feel unwell.
First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Suspected of causing cancer.
Symptoms/effects after inhalation : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.
Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact : Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

Fire hazard : No particular fire or explosion hazard.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing. EN469. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin, eyes and clothing. Avoid creating or spreading dust. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

Environmental precautions : Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment : Contain and collect as any solid.

Methods for cleaning up : Mechanically recover the product. Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

Section 7: safe handling,Section 8: personal protective equipment,For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store in original container. Store locked up.

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

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

Storage area : Store in dry, cool, well-ventilated area.

Information on mixed storage : Incompatible materials.

Packaging materials : Store always product in container of same material as original container.

Specific end uses : Temperature indicator.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Molybdenum trioxide (1313-27-5)	
Canada (British Columbia) - Occupational Exposure Limits	
Local name	Molybdenum trioxide
Notations and remarks	IARC group 2B carcinogen
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)

8.2. Appropriate engineering controls

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

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:
Use rubber gloves. EN374

Eye protection:
Chemical goggles or safety glasses. EN166. Safety glasses

Skin and body protection:
Wear suitable protective clothing

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

Personal protective equipment symbol(s):

Other information:

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

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Solid
Appearance	:	A solid crayon-like marker.
Color	:	Red
Odor	:	odorless
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	550 °C
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Explosion limits	:	Not applicable
Particle characteristics	:	No data available

Molybdenum trioxide	
Particle characteristics	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

VOC content : 0 %

SECTION 10 Stability and reactivity

Reactivity : No dangerous reactions known.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerization will not occur.

Conditions to avoid : None known.

Incompatible materials : Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products : Carbon oxides (CO, CO2).

Hardening time: : No additional information available

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Tempilstik® 1022 °F (550 °C)	
Unknown acute toxicity (GHS CA)	98.99% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 98.99% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 98.99% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

Molybdenum trioxide (1313-27-5)	
LD50 oral rat	4233 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))
LC50 Inhalation - Rat	> 5.1 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	5.84 mg/l Source: HSDB

Skin corrosion/irritation : Not classified

Molybdenum trioxide (1313-27-5)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye irritation.

Molybdenum trioxide (1313-27-5)	
pH	No data available in the literature

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Suspected of causing cancer.

Molybdenum trioxide (1313-27-5)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

Molybdenum trioxide (1313-27-5)	
LOAEL (animal/male, F0/P)	100 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	42.5 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure : Not classified

Molybdenum trioxide (1313-27-5)	
STOT-single exposure	May cause respiratory irritation.

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

Molybdenum trioxide (1313-27-5)	
NOAEC (inhalation,rat,dust/mist/fume,90 days)	> 0.1 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Tempilstik® 1022 °F (550 °C)	
Viscosity, kinematic	Not applicable

Molybdenum trioxide (1313-27-5)	
Viscosity, kinematic	Not applicable (solid)

Likely routes of exposure : Inhalation. Skin and eye contact.

Symptoms/effects : Suspected of causing cancer.

Symptoms/effects after inhalation : None under normal conditions. Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure.

Symptoms/effects after skin contact : None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/effects after eye contact : Causes serious eye irritation. Eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Molybdenum trioxide (1313-27-5)	
LC50 - Fish [1]	577 mg/l (96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Molybdenum ion)
LC50 - Fish [2]	678 mg/l Test organisms (species): Pimephales promelas
ErC50 algae	> 218 mg/l Source: ECHA
EC50 72h - Algae [1]	> 100 mg/l (Scenedesmus subspicatus, Literature study, Nominal concentration)
NOEC (chronic)	> 87.8 mg/l

12.2. Persistence and degradability

Tempilstik® 1022 °F (550 °C)	
Persistence and degradability	Rapidly degradable

Molybdenum trioxide (1313-27-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

Molybdenum trioxide (1313-27-5)	
Bioaccumulative potential	Not bioaccumulative.
Partition coefficient n-octanol/water (Log Pow)	2.23 Source: Quantitative Structure Activity RelationQSAR

12.4. Mobility in soil

Molybdenum trioxide (1313-27-5)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone : Not classified

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Do not dispose of waste into sewer. Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
14.1. UN Number			
Not regulated for transport			
14.2. UN Proper Shipping Name			
Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.3. Transport hazard class(es)			
Not regulated.	Not regulated.	Not regulated.	Not regulated.

TDG	DOT	IMDG	IATA
14.4. Packing group, if applicable			
Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.5. Environmental hazards			
Not regulated.	Not regulated.	Not regulated.	Not regulated.
No supplementary information available			

14.6. Special precautions for user

TDG
Not regulated.

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

14.7. Transport in bulk according to Annex II of MARPOL 73/78[9] and the IBC Code[10]

Not applicable

SECTION 15 Regulatory information

Molybdenum trioxide (1313-27-5)	
Listed on the Canadian DSL (Domestic Substances List)	
Canada DSL NDSL Flags	Significant New Activity (SNAc) provisions of the Act apply

Molybdenum trioxide (1313-27-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

SECTION 16 Other Information

Issue date : 01-22-2025

Data sources	:	ACGIH (American Conference of Government 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.
Other information	:	None.

Full text of hazard classes and H-statements:	
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

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

Safety Data Sheet (SDS), Canada

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.