



SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : LMM6018.LF LASER MARKING TAPE

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

1.3. Details of the supplier of the safety data sheet

Registered company name : GRAVOTECH MARKING SAS.
Address : 56, avenue Jean Jaurès.10600.La Chapelle Saint Luc.France.
Telephone : +33 (0)3 25 41 65 65. Fax : +33 (0)3 25 79 04 25.
e-mail : info@gravograph.fr
<http://www.gravograph.com>

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.

Other emergency numbers

National Poisons Information Service of England: <http://npis.org> - NHS 111: dial 111 - National Poisons Information Centre of Ireland: 353 (1) 809 2166 - LUXEMBOURG : (+352) 8002 5500 - European Emergency Number Association (EENA) : 112

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

May produce an allergic reaction (EUH208).
Carcinogenicity, Category 1B (Carc. 1B, H350).
Reproductive toxicity, Category 1B (Repr. 1B, H360F).
This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.
This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS08

Signal Word :

DANGER

Product identifiers :

027-001-00-9

COBALT

Additional labeling :

EUH208

Contains COBALT. May produce an allergic reaction.

EUH208

Contains NICKEL. May produce an allergic reaction.

For professional users only.

Hazard statements :

H350

May cause cancer .

H360F

May damage fertility.

Precautionary statements - Prevention :

P201

Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 Precautionary statements - Response :
 P308 + P313 IF exposed or concerned: Get medical advice/attention.
 Precautionary statements - Disposal :
 P501 Dispose of contents/container at a disposal facility in accordance with local regulations.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) $\geq 0.1\%$ published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>
 The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.
 The mixture does not contain substances $> 0.1\%$ with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.
 In case of dust formation, the dust can be irritating by inhalation and eye.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	Classification (EC) 1272/2008	Note	%
CAS: 12001-26-2 EC: 310-127-6 MICA		[1]	10 \leq x % < 25
CAS: 14808-60-7 EC: 238-878-4 QUARTZ (SIO2)		[1]	10 \leq x % < 25
CAS: 7440-47-3 EC: 231-157-5 REACH: 01-2119485652-31 CHROME		[1]	1 \leq x % < 2.5
CAS: 7440-42-8 EC: 231-151-2 BORE		[1]	1 \leq x % < 2.5
CAS: 1309-37-1 EC: 215-168-2 REACH: 01-2119457614-35 DIIRON TRIOXIDE		[1]	1 \leq x % < 2.5
INDEX: 027-001-00-9 CAS: 7440-48-4 EC: 231-158-0 COBALT	GHS08 Dgr Skin Sens. 1, H317 Resp. Sens. 1, H334 Muta. 2, H341 Carc. 1B, H350 Repr. 1B, H360F Aquatic Chronic 4, H413	[1] [2]	0.1 \leq x % < 1
INDEX: 028-002-00-7 CAS: 7440-02-0 EC: 231-111-4 REACH: 01-2119438727-29 NICKEL	GHS08, GHS07 Dgr Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317	S [1] [2] [XVII]	0.1 \leq x % < 1

Information on ingredients :

(Full text of H-phrases: see section 16)

[XVII] Restricted substance under Regulation (EC) No. 1907/2006 (REACH), Annex XVII.

[1] Substance for which maximum workplace exposure limits are available.

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.



4.1. description of first aid measures

In the event of exposure by inhalation :

In the event of an allergic reaction, seek medical attention.
If inhaled, move the patient into the fresh air and keep warm and at rest.
If breathing is irregular or has stopped, proceed with artificial respiration and seek medical attention.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.
If there is any redness, pain or visual impairment, consult an ophthalmologist.

In the event of splashes or contact with skin :

Watch out for any remaining product between skin and clothing, watches, shoes, etc.
In the event of an allergic reaction, seek medical attention.
Wash the skin thoroughly with soap and water or a recognised cleaner.

In the event of swallowing :

Seek medical attention, showing the label.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.
Keep packages near the fire cool, to prevent pressurised containers from bursting.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :
- water

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.
Do not breathe in smoke.

5.3. Advice for firefighters

No data available.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Retrieve the product by mechanical means (sweeping/vacuuming).

6.4. Reference to other sections

No data available.



SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.
Avoid exposure to pregnant women and warn women of child-bearing age of the possible risks

7.1. Precautions for safe handling

Always wash hands after handling.
Remove and wash contaminated clothing before re-using.
Handle in well-ventilated areas.

Fire prevention :

Prevent access by unauthorised personnel.

**Recommended equipment and procedures :**

- For personal protection, see section 8.
- Observe precautions stated on label and also industrial safety regulations.
- Avoid exposure - obtain special instructions before use.

Prohibited equipment and procedures :

- No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

- No data available.

Packaging

- Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

- No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Occupational exposure limits :**

- European Union (2022/431, 2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m ³ :	VME-ppm :	VLE-mg/m ³ :	VLE-ppm :	Notes :
7440-47-3	2	-	-	-	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
12001-26-2	3 (R) mg/m ³				
14808-60-7	0.05 mg/m ³	-	-	-	R
7440-47-3	0.5 mg/m ³	-	-	-	-
1309-37-1	5 mg/m ³	-	-	-	-
7440-48-4	0.02 mg/m ³	-	-	-	-
7440-02-0	1.5 mg/m ³	-	-	-	I

- Germany - AGW (BAuA - TRGS 900, 02/2022) :

CAS	VME :	VME :	Excess	Notes
7440-47-3		2E mg/m ³		1(I)
7440-02-0		0.006 A mg/m ³		8(II)

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
12001-26-2	2.5 (inspirable) mg/m ³			A*	
14808-60-7	0.1 mg/m ³				
7440-47-3	0.5 mg/m ³			H	
1309-37-1	5 mg/m ³			H	
7440-48-4	0.05 mg/m ³			H	
7440-02-0	0.1 mg/m ³			H	

- Austria (BGBl. II Nr. 156/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
14808-60-7	0.05 A mg/m ³				
7440-47-3	2 mg/m ³				
1309-37-1	5A mg/m ³	10A mg/m ³			
7440-48-4	0.1 E mg/m ³	0.4 E mg/m ³		H. Sah	
7440-02-0	0.5 E mg/m ³	2E mg/m ³			

- Belgium (Royal decree of 11/05/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
12001-26-2	3 mg/m ³				
14808-60-7	0.1 mg/m ³			C	
7440-47-3	0.01 mg/m ³	-	-	-	-
1309-37-1	5 mg/m ³				
7440-48-4	0.02 mg/m ³				
7440-02-0	1 mg/m ³				

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

CAS	VME-ppm :	VME-mg/m ³ :	VLE-ppm :	VLE-mg/m ³ :	Notes :	TMP No :
14808-60-7	-	0.1 A	-	-	-	25
7440-47-3	-	2	-	-	-	-
1309-37-1	-	5	-	-	-	44.44 Bis.94

7440-02-0	-	1	-	-	C3	-
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- Switzerland (Suva 2021) :

CAS	VME	VLE	Valeur plafond	Notations
12001-26-2	3 ppm			
14808-60-7	0.15 ppm			
7440-47-3	0.5 ppm			
7440-42-8	0.8 ppm	0.8 ppm		
1309-37-1	3 ppm			
7440-48-4	0.05 ppm			
7440-02-0	0.05 ppm			

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
12001-26-2	0.8 mg/m ³				
14808-60-7	0.3 mg/m ³	-	-	-	R
7440-47-3	0.5 mg/m ³				
1309-37-1	5 mg/m ³	10 mg/m ³	-	-	-
7440-48-4	0.1 mg/m ³	-	-	-	-
7440-02-0	0.1 mg/m ³	-	-	-	-

- USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
12001-26-2	20 mppcf	-	-	-	-
14808-60-7	-	-	-	-	T
7440-47-3	0.5 mg/m ³	-	-	-	-
1309-37-1	15 mg/m ³				
7440-48-4	0.1 mg/m ³				
7440-02-0	1 mg/m ³				

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, if possible with extractor fans at work posts and appropriate general extraction.

If the ventilation is insufficient to maintain the concentration of dust below the exposure limits, wear breathing apparatus.

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

Before handling powders or dust emission, wear mask goggles in accordance with standard EN166.

Wear safety goggles.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

In the event of prolonged or repeated contact with the hands, use appropriate gloves.

- Body protection

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid inhaling dust.

Type of FFP mask :

Wear a disposable half-mask dust filter in accordance with standard EN149/A1.

With this preparation, particularly avoid inhaling dust.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties****Physical state**

Physical state :	Solid.
-	N/A

Colour

Colour:	Black.
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Odour

Odour threshold :	Not stated.
Odour:	Odourless.

Freezing point

Freezing point / Freezing range :	Not stated.
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Boiling point or initial boiling point and boiling range

Boiling point/boiling range :	Not relevant.
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Flammability

Flammability (solid, gas) :	Not stated.
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Lower and upper explosion limit

Explosive properties, lower explosivity limit (%) :	Not stated.
Explosive properties, upper explosivity limit (%) :	Not stated.

Flash point

Flash point interval :	Not relevant.
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Auto-ignition temperature

Self-ignition temperature :	Not relevant.
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Decomposition temperature

Decomposition point/decomposition range :	Not relevant.
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pH

pH (aqueous solution) :	Not stated.
pH :	Not relevant.

Kinematic viscosity

Viscosity :	Not stated.
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Solubility

Water solubility :	Insoluble.
Fat solubility :	Not stated.

Partition coefficient n-octanol/water (log value)

Partition coefficient: n-octanol/water :	Not stated.
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Vapour pressure

Vapour pressure (50°C) :	Not relevant.
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Density and/or relative density

Density :	> 1
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Relative vapour density

Vapour density :	Not stated.
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9.2. Other information

% VOC :	0
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9.2.1. Information with regard to physical hazard classes

No data available.

9.2.2. Other safety characteristics

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.



10.4. Conditions to avoid

Dusts can form an explosive mixture with air.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

No data available.

SECTION 11 : TOXICOLOGICAL INFORMATION



11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Presumed human carcinogen.

Presumed human reproductive toxicant.

May damage fertility.

11.1.1. Substances

No toxicological data available for the substances.

11.1.2. Mixture

Respiratory or skin sensitisation :

Contains at least one sensitising substance. May cause an allergic reaction.



11.2. Information on other hazards



Monograph(s) from the IARC (International Agency for Research on Cancer) :

CAS 7440-02-0 : IARC Group 2B : The agent is possibly carcinogenic to humans.

CAS 7440-48-4 : IARC Group 2A : The agent is probably carcinogenic to humans.

CAS 1309-37-1 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 7440-47-3 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 14808-60-7 : IARC Group 1 : The agent is carcinogenic to humans.

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.



12.6. Endocrine disrupting properties

No data available.



12.7. Other adverse effects

No data available.



German regulations concerning the classification of hazards for water (WGK, AwSV Annex I, KBws) :

WGK 3 : Extremely hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.



Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Exempt from transport classification and labelling.

14.1. UN number or ID number

-

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

-

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Maritime transport in bulk according to IMO instruments

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SECTION 15: Regulatory information

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

Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2022/692 (ATP 18)

Container information:

No data available.

Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):

The mixture contains at least one restricted substance under Annex XVII of Regulation (EC) No. 1907/2006 (REACH):

<https://echa.europa.eu/substances-restricted-under-reach>. Please refer to Section 3 to identify the substance involved.

For professional users only.

Explosives precursors :

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Particular provisions :

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV Annex I, KBWs) :

WGK 3 : Extremely hazardous for water.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects .
H350	May cause cancer .
H351	Suspected of causing cancer .
H360F	May damage fertility.
H372	Causes damage to organs through prolonged or repeated exposure .
H413	May cause long lasting harmful effects to aquatic life.

Abbreviations and acronyms :

REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.

CMR: Carcinogenic, mutagenic or reprotoxic.

STEL : Short-term exposure limit

TWA : Time Weighted Averages

TMP : French Occupational Illness table

TLV : Threshold Limit Value (exposure)

AEV : Average Exposure Value.

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

GHS08 : Health hazard

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.