

# GRAFMETAL

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## Material Safety Data Sheet GRAFMETAL Universal Aerosol for laser marking of metals

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

**1.1 Product identifiers:** GRAFMETAL Universal Aerosol for laser marking of metals

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

**Product application:** Marking, engraving and cutting metals with CO<sub>2</sub> lasers

**1.3 Details of the supplier of the safety data sheet**

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**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Product definition:** mixture

**Classification according to Regulation (EC) No 1272/2008:** not classified

The product was classified as dangerous according to Regulation EC No 1272/2008 with updates. H222

Extremely flammable aerosol. H229 Pressurized container: may burst if heated. H240 Heating may cause an explosion.

**Hazards for humans:**

H222 Extremely flammable aerosol. H229 Pressurized container: may burst if heated. H240 Heating may cause an explosion.

**Environmental hazard:**

The product is not harmful for the environment.

**2.2. Label elements:**

**Pictogram:**

GHS02



**Signal word:** Danger

**Hazard statements:** H222 Extremely flammable aerosol. H229 Pressurized container: may burst if heated. H240 Heating may cause an explosion.

**Precautionary statements:** P102 Keep out of reach of children. P103 Read label before use. P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not

spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P262 Do not get in eyes, on skin, or on clothing. P271 Use only outdoors or in a well-ventilated area. P410 Protect from sunlight. P412 Do not expose to temperatures exceeding 50 °C/122 °F.

### **2.3. Other hazards:**

No information about meeting PBT or vPvB criteria according to the 12th appendix of the REACH regulation.

### **SECTION 3: Composition/information on ingredients**

General description: the mixture contains propellant gases and Grafmetal paste.

Grafmetal paste does not contain components, which according to the best knowledge of the supplier are dangerous to health or environment or which have restrictions concerning their presence in the workplace and therefore it is not compulsory to disclose them in this section.

Substances posing a threat to health or environment according to Regulation (EC) No 1272/2008:

Dimethyl ether: content <60%, CAS: 115-10-6, EC: 204-065-8, classification: H220, H280

Acetone: content <20%, CAS: 67-64-1, EC: 200-662-2, classification: H220, H280

### **SECTION 4: First aid measures**

#### **4.1 Description of first-aid measures**

##### **General advice**

If any symptoms occur, then please arrange for a medical help and transport the victim to the hospital. Show the container and the label to the doctor.

##### **If inhaled**

Get the sufferer to fresh air (rescuers should be equipped with appropriate means of individual protection). Rinse mouth and nose with water. Provide warmth and relax conditions to the sufferer. Do not leave the sufferer without care. In case of losing consciousness lay the sufferer in a lateral fixed position. In case of hindered breathing provide oxygen if possible or perform artificial respiration. If the symptoms persist contact a physician.

##### **If swallowed:**

If big portion was swallowed, then administer warm water, provided that the sufferer is totally conscious.

##### **In case of skin contact:**

Is not harmful

##### **In case of eye contact:**

After eye contact: rinse out with plenty of water for at least 10 minutes. Call in ophthalmologist. Remove contact lenses.

#### **4.2 Most important symptoms and effects, both acute and delayed:**

The product is not harmful

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

In the case of any disturbing symptoms, immediately arrange for medical help, show the container of the product and the label.

### **SECTION 5: Firefighting measures**

Pressurized container: heating may cause explosion. Vapours form explosive mixtures with air. The vapours are denser than air and may accumulate by the earth surface and in lower parts of rooms. Containers exposed to fire or high temperature may explode.

#### **5.1 Extinguishing media**

**Suitable extinguishing media:** carbon dioxide, extinguishing powder, extinguishing foam, use extinguishing medium suitable for the surrounding fire

**Unsuitable extinguishing media:** stream of water, sprayed water may be used only for cooling the containers at risk of explosion.

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

None

#### **5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus and protective clothing.

### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures:**

Remove bystanders from the endangered zone and place them in a well ventilated area. Trained persons equipped in means of individual protection may carry out work related to dealing with the results of the accident. Provide proper ventilation.

### **6.2 Environmental precautions:**

Stop the leak, inform appropriate authorities, do not let the product to leak to the sanitation system, water or soil.

### **6.3 Methods and materials for containment and cleaning up:**

Big amounts of the product should be walled and collected to containers. Contaminated surface should be rinsed with water.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling:**

Wear protective clothing, protective gloves and safety glasses. Do not eat nor drink in the vicinity of the mixture. Make sure that aerosols or vapours do not form mixtures with concentrations above the explosive limits. Do not inhale the vapours or sprayed mist. Avoid contact with skin and eyes. Container under pressure. Do not expose to sunlight and temperature above 50°C. Emptied container should not be destroyed or placed in a fire. Do not spray over open flame or on hot objects. Do not store the product in vicinity of ignition sources. Prevent occurrence of electrostatic discharges, which may cause vapour ignition. Electric devices should be protected against explosion.

### **7.2 Conditions for safe storage, including any incompatibilities:**

Keep in closed containers at room temperature far away from sources of heat, ignition or electric discharges. Avoid exposing the containers to sunlight.

## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

Occupational exposure limits:

Dimethyl ether: 1000 mg/m<sup>3</sup> TWA (recommended)

Acetone: 600 mg/m<sup>3</sup> TWA (recommended)

### **Individual protective measures:**

Wash hands before and after working with the product.

### **8.2 Exposure controls**

#### **Hand protection:**

Wear protective gloves, which are impermeable for liquids.

#### **Eye protection:**

Wear safety glasses for protection against splashes. While using the product during laser processing of metals it is necessary to close the device cover, so the laser beam will not be reflected toward any person. If the laser cover is not available for the particular device, then it is necessary to build one of polycarbonate or glass.

#### **Skin protection:**

Wear protective clothing.

#### **Technical control measures:**

Provide effective air exchange. Provide a place for rinsing eyes and skin in case of contamination thereof.

## **SECTION 9: Physical and chemical properties**

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

Appearance: aerosol

Colour: greyish-black

pH: not applicable

Odour: none

Boiling point [°C]: -40

Flow temperature [°C]: not applicable

Melting point [°C]: <-50

Flash point [°C]: -60

Explosive properties: lower explosive limit 1.4% vol., upper explosive limit 10.8% vol.

Vapour pressure: >3000 hPa (w 20°C)

Viscosity: no data

Density at 20°C [g/cm<sup>3</sup>]: 0.8±0.2

Solubility:

in water: < 0.01 g/100 ml

other solvents: soluble in aliphatic hydrocarbons

## **SECTION 10: Stability and reactivity**

### **10.1 Stability:**

The product is stable at recommended storage conditions

### **10.2 Reactivity**

At recommended condition the product is not reactive

### **10.3 Incompatible materials:**

No data

### **10.4 Conditions to avoid:**

Exposure to high temperatures, contact with open fire and sources of ignition

### **10.5 Hazardous decomposition products:**

Carbon oxides, soot

## **SECTION 11: Toxicological information**

### **11.1. Information on toxicological effects:**

#### **Acute toxicity:**

No data

#### **Health risk:**

No data

#### **Inhalation:**

The product is not volatile; when used with lasers gas vapours and soot suspension in the air may occur

#### **Skin:**

Is not dangerous

#### **Eyes:**

May cause mild eye irritation

#### **Swallowing:**

The product swallowed in very big quantities may cause mild threat to health.

Lethal and toxic doses to animals:

Dimethyl ether, LC50 (rat, inhalation): 308 mg/l, time: 4 h

Acetone, LC50 (rat, inhalation): 76 mg/l, time: 4 h

## **SECTION 12: Ecological information**

### **12.1 Toxicity:**

No data about toxicity

### **12.2 Mobility in soil:**

The product is not water soluble

### **12.3 Bioaccumulative potential:**

No data available

### **12.4 Biodegradability:**

No data available

### **12.5 Results of PBT and vPvB assessment:**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

Do not flush to the sewer system. Do not let to the pollution of water. Do not burn used containers.

#### **Waste treatment:**

Waste classification (EWC):

08 01 12 Waste paint and varnish other than those mentioned in 08 01 11 (used product)

16 05 04 Gases in containers containing dangerous substances (product not entirely used)

#### **Disposal method:**

The product keeps its properties for a long time, so before disposal using the product should be considered.

#### **Container:**

Used containers should be recycled.

**SECTION 14: Transport information**

The mixture is included in international regulation concerning transport of dangerous materials (IMDG, IATA, ADR/RID). The product is classified as dangerous in transport.

UN1950, Aerosols, 2.1. Limited quantity. Shipping papers are not required for limited quantities unless transported by air or vessel – each package must be marked with Limited Quantity Mark.

IMDG description: UN1950, Aerosols, 2.1, LTD QTY

ICAO description: UN1950, Aerosols, flammable, 2.1

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)

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Observe work restrictions in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

**SECTION 16: Other information**

Use in accordance to the User manual provided by the manufacturer.

The product is available for professional use only, the manufacturer is not accountable for its incorrect use.

**Manufacturer:**

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