

## Laser Micro

SDS



### 1. Identification

- Commercial name: Laser Micro
- Seller : C. Hecht & Co BV
- Usage: Engraving

### 2. Composition / Information on Ingredients

name of the product: Coated / High Impact Acrylic Plastic Sheet

#### Coating

##### Chemical characteristics:

Polyester gilm with pigmented lacquer coating (organic and/or inorganic pigments)

Polyester: polyethylenc terephthalate 19 $\mu$ , 23 $\mu$

#### Core

Acrylic Copolymers

Methyl Methacrylate

### 3. Hazards Identification

#### Coating

- Risks for human health: not known
- Security risks: not known
- Environmental risks: not known

#### Generally

##### DPI Hazard Rating

##### Scale

- |                   |                  |
|-------------------|------------------|
| • Toxicity: 1     | 4: extreme       |
| • Flammability: 1 | 3: high          |
| • Reactivity: 0   | 2: moderate      |
|                   | 1: insignificant |

LASERPLY is free of halogen, free of silicone and asbestos-free!

### 4. First aid

- Inhalation: If exposed to monomer vapors gerated during processing, move subject to fresh air.
- Eye contact: Flush eyes with a large amount of water for at least 15 minutes. Consult a physician if irritation persists.
- Skin contact: In the case of accidental cuts, wash thoroughly with water. Consults a physician if irritation persists.

### 5. Fire-Fighting Measures

#### **Fire and explosive properties**

- Flash point: Not applicable
- Auto-Ignition temperature: 393 C / 739 F
- Explosion Data: Not applicable
- Unusual Hazards: Material as sold is combustible. It burns vigorously with intense heat. Carbon dioxide, carbon monoxide, plus other organic and inorganic oxides will be present.

- Suitable extinguishing media  
Recommended: Isolate hazard area. Use water spray, carbon dioxide or dry chemical to extinguish fire.  
CO<sub>2</sub>-powder and foam extinguisher.
- Protective Equipment: Use self-contained breathing equipment independent from circulating air and protective clothes.
- Particular risks arising from product/products of combustion/generated gases:  
When burned the following substances can be formed:  
Carbon monoxide(CO), small quantities of nitric oxide, trace amounts of hydrogen chloride and acetic acid

## 6. Accidental Release Measures

- Protect people: Wear gloves to protect hands from being cut by sharp edges. Sweep up or vacuum all scrap.
- Protect the environment: Transfer scrap material to suitable container for proper disposal.

## 7. Handling and storage

- Handling: This material can release monomer vapors or gases when heated to high temperatures during processing, cutting or machining. Proper ventilation is required. Observe the general instructions in industrial work hygiene.
- Storage: This material is not hazardous under normal conditions. However, all materials of this type release some monomer vapors or gases when stored for prolonged periods at elevated temperatures. Store product at ambient temperature, avoid heat from direct sunlight and extremes of humidity.
- Other recommendations: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5m/sec) at the point of vapor evolution. Refer to the current edition of "Industrial

Ventilation: A Manual of recommended practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use and maintenance of exhausts systems.

## 8. Special protection information

- Engineering controls: Local exhausts and general ventilation as required, to maintain emissions. Suck off product dust that may be generated directly at the place of origin.
- Personal protective Equipment: Gloves and safety glasses are recommended.

## 9. Physical and chemical properties

### Coating

- |   |              |                                  |
|---|--------------|----------------------------------|
| • Form:   |              | solid                            |
|   |              | <u>value/range</u>               |
| • Change in physical melting point / melting range: |              | > 220°C                          |
| • Boiling point / boiling range:                    |              | n.a.                             |
| • Flash point:                                      |              | >300°C                           |
| • Ignition temperature:                             |              | >350°C                           |
| • Danger of explosion:                              |              | n.a.                             |
| • Explosion limits:                                 | lower limit: | n.a.                             |
|   | Upper limit: | n.a.                             |
| • Vapour pressure                                   |              | n.a.                             |
| • Density:  |              | >1,3g/cm <sup>3</sup> at 20°C    |
| • Solubility in water:                              |              | at 20°C practically<br>Insoluble |
| • PH-value:   |              | n.a.                             |
| • Viscosity:  |              | n.a.                             |

Core

<u>Category</u>	<u>Property</u>	<u>Test Method</u>	<u>Unit</u>	
• Toughness	Falling Dart Impact	ASTM D-3029 (73°F)	11 ft-lbs	
	Izod Impact	ASTM D-256 (73°F)	1,2 ft-lbs	
		(0°F)	0,5 ft-lbs	
• Clarity:	Haze	(73°F)	4 %	
		(140°F)	8 %	
	Water Haze	(104°F, 21 Days)	4,4 %	
• Thermoforming:	Optimum Forming Temperature		325 °F	
	Forming Temperature Range		275–375 °F	
	Heating Cycle Infrared		4 minutes	
	Cooling Cycle		2 minutes	
	Part Removal Temperature		180 °F	
	Time to Form:		50 seconds	
	Total Forming Cycle Infrared		6 minutes	
• Other Properties:	Specific Gravity	ASTM D-792	1,15 g/cc	
	Flexural Modulus	ASTM D-790	270,000 psi	
	Coefficient of Thermal Expansion	ASTM D-698	5,7 in/in/°Fx10 <sup>-5</sup>	
	Heat Deflection Temperature	ASTM D-648 (264 psi, unannealed)	175 °F	
	Hardness	ASTM D-785	45 Rockwell "M"	
	Flammability	UL-94	HB 062	
	• Appearance/physical state:	Clear to opaque		
	• Boiling point:	Not applicable		
• Solubility in water/miscibility:	Not applicable			
• Self-Flammable temperature:	393 C / 739 F			
• Flash point:	Not applicable			

## 10. Stability and reactivity

- Chemical stability: This product is considered stable. However, avoid temperature above 260 C / 500 F for prolonged periods to prevent slow decomposition.
- Incompatibility with Other materials: Avoid contact with acids, alkalis and strong oxidizing agents.
- Hazardous Decomposition Products: Thermal decomposition may yield acrylic monomers. Combustion will yield carbon dioxide, carbon monoxide, plus other organic or inorganic oxides. In case of burning please refer to point 5.
- Hazardous polymerisation: This product will not undergo polymerisation.
- Hazardous reactions: none when used appropriately

## 11. Toxicological information

Harmful effects due to exposure to the product are not known.

- Eye contact: Vapor from heated product can cause irritation.
- Skin contact: Vapor from heated product can cause irritation.
- Inhalation: Inhalation of vapor from heated product can cause irritation of nose, throat, and lungs. It can also cause dizziness, headache and nausea.

## 12. Ecological information

The product presents no risk worth mentioning for the environment.

### **13. Disposal Considerations**

- Disposal: Dispose of waste in an approved waste treatment facility where permitted under appropriate federal, state and local regulations. Do not dispose of wastes with normal refuse without first applying for permission from your local regulatory body.

### **14. Transport information**

The product is not subject to the regulations concerning transport of dangerous goods (GGVS in the actually valid version).

### **15. Regulatory information**

The product is not a dangerous working substance according to the German "Gefahrstoff-Verordnung" in its existing valid version.

### **16. Other Information**

The information contained herein relates only to the specific material identified. Such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. We urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

This information is based on the present state of knowledge and experience. The data sheet describes products in respect of safety requirements. This information cannot be considered as a quality or product warranty.