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

1.1 Product identifier

DuraBlack

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

1.2.1 Relevant uses

Laser engraved article

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company: Trotec Laser GmbH
Linzer Str. 156
4600 Wels / AUSTRIA
Phone +43 (0)72 42 239-7777
Fax +43 (0) 72 42 239-7380
Homepage www.troteclaser.com
E-mail trotec@troteclaser.com

Address enquiries to
Technical information: trotec@troteclaser.com
Safety Data Sheet: sdb@chemiebuero.de

1.4 Emergency telephone number

Company: +43 (0)72 42 239-7777

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

No classification.

2.2 Label elements

This product is an article and therefore it does not require labelling according to EC directives [REACH/CLP].

2.3 Other hazards

Human health dangers: For thermal decomposition to high temperature are formed irritating smoke.

SECTION 3: Composition / Information on ingredients

Product-type: The product is an article.

Comment on component parts: No dangerous components. Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
SECTION 4: First aid measures

4.1 Description of first aid measures

**General information**
In the event of symptoms seek medical treatment.

**Inhalation**
After inhalation of vapour of product which can set be free by thermal processing:
Remove the victim into fresh air and keep him calm.
In the event of symptoms seek medical treatment.

**Skin contact**
In case of contact with skin wash off with warm water.
Consult a doctor if skin irritation persists.
In case of burning: After contact with molten product cool quickly with cold water or sterile salt solution and protect with gauze.

**Eye contact**
If eye irritation persists: Get medical advice/attention.

**Ingestion**
not applicable

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

**Suitable extinguishing media**
Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

**Extinguishing media that must not be used**
Full water jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:
Metal oxides.
Carbon monoxide (CO)
Carbon dioxide (CO2)

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Wear suitable protective equipment. For personal protection see SECTION 8.

6.2 Environmental precautions

No special measures necessary.

6.3 Methods and material for containment and cleaning up

Take up mechanically.

6.4 Reference to other sections

See SECTION 8+13
SECTION 7: Handling and storage

7.1 Precautions for safe handling

Small quantities of formaldehyde were detected during laser engraving of DuraBlack. Under normal laser operating conditions, the user’s exposure was below the OSHA’s action value of 0.5 ppm.
During thermal processing vacuuming at processing machines is necessary.
The normal safety precautions for handling of molten, heated products must be observed.

Wash hands before breaks and after work.
Do not eat, drink, smoke or take drugs at work.

7.2 Conditions for safe storage, including any incompatibilities

Do not store together with acids and alkalies.
Store in a dry place.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

8.2 Exposure controls

Additional advice on system design
Use suitable discharges or exhaust ventilation if heat treatment is intended.
Protection adapted to the manipulation of the fused product (danger of burning).

Eye protection
In the case of thermal processing:
Tightly fitting goggles. (EN 166:2001)

Hand protection
Gloves (heat-resistant).
The details concerned are recommendations. Please contact the glove supplier for further information.

Skin protection
Protective clothing.

Other
Avoid contact with eyes and skin.
Do not inhale smokes formed during heat treatment.

Respiratory protection
Respiratory protection in the case of thermal processing.
Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)

Thermal hazards
yes

Delimitation and monitoring of the environmental exposition
Comply with applicable environmental regulations limiting discharge to air, water and soil.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Form**: Metal plates, solid in different forms.
- **Color**: Aluminium sheet with a matt-black coating on one side.
- **Odor**: Odourless.
- **Odour threshold**: No information available.
- **pH-value**: Not applicable.
- **pH-value [1%]**: Not applicable.
- **Boiling point [°C]**: Not applicable.
- **Flash point [°C]**: Not applicable.
- **Flammability (solid, gas) [°C]**: Not highly flammable.
- **Lower explosion limit**: Not applicable.
- **Upper explosion limit**: Not applicable.
- **Oxidising properties**: No.
- **Vapour pressure/gas pressure [kPa]**: Not applicable.
- **Density [g/ml]**: No information available.
- **Bulk density [kg/m³]**: Not applicable.
- **Solubility in water**: Insoluble.
- **Partition coefficient [n-octanol/water]**: Not applicable.
- **Viscosity**: Not applicable.
- **Relative vapour density determined in air**: Not applicable.
- **Evaporation speed**: Not applicable.
- **Melting point [°C]**: No information available.
- **Autoignition temperature [°C]**: Not self-igniting.
- **Decomposition temperature [°C]**: No information available.

9.2 Other information

None.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with strong acids and alkalies.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

See SECTION 10.3.
10.6 Hazardous decomposition products

In the case of heating following (decomposition) products may occure:
Oxide of carbon (COx)
Formaldehyde.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/irritation</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Specific target organ toxicity — single exposure</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Specific target organ toxicity — repeated exposure</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Reproduction toxicity</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on the available information, the classification criteria are not fulfilled.</td>
</tr>
</tbody>
</table>

General remarks

Risk of mechanical irritation.
May cause irritation of eye (vapours/fumes).
May cause respiratory tract irritation (vapours/fumes).
Toxicological data of complete product are not available.

SECTION 12: Ecological information

12.1 Toxicity

12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour in environment compartments</td>
<td>No information available.</td>
</tr>
<tr>
<td>Behaviour in sewage plant</td>
<td>not applicable</td>
</tr>
<tr>
<td>Biological degradability</td>
<td>The methods for determining the biological degradability are not applicable to inorganic substances.</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

The product is insoluble in water.
Ecotoxicological data are not available.
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Disposal in an incineration plant in accordance with the regulations of the local authorities.

Waste no. (recommended)
060499
170402

Contaminated packaging

Contaminated packing should be disposed of as product waste.
Uncontaminated packaging may be taken for recycling.

Waste no. (recommended)
150102
150101

SECTION 14: Transport information

14.1 UN number

| Transport by land according to ADR/RID | not applicable |
| Inland navigation (ADN) | not applicable |
| Marine transport in accordance with IMDG | not applicable |

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

| Transport by land according to ADR/RID | NO DANGEROUS GOODS |
| Inland navigation (ADN) | NO DANGEROUS GOODS |
| Marine transport in accordance with IMDG | NOT CLASSIFIED AS “DANGEROUS GOODS” |

Air transport in accordance with IATA NOT CLASSIFIED AS “DANGEROUS GOODS”

14.3 Transport hazard class(es)

| Transport by land according to ADR/RID | not applicable |
| Inland navigation (ADN) | not applicable |
| Marine transport in accordance with IMDG | not applicable |

Air transport in accordance with IATA not applicable
14.4 Packing group

Transport by land according to ADR/RID: not applicable
Inland navigation (ADN): not applicable
Marine transport in accordance with IMDG: not applicable
Air transport in accordance with IATA: not applicable

14.5 Environmental hazards

Transport by land according to ADR/RID: no
Inland navigation (ADN): no
Marine transport in accordance with IMDG: no
Air transport in accordance with IATA: no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

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

- Observe employment restrictions for people: none
- VOC (1999/13/CE): 0 %

15.2 Chemical safety assessment

not applicable
16.1 Abbreviations and acronyms:

- ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
- RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
- ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
- CAS = Chemical Abstracts Service
- CLP = Classification, Labelling and Packaging
- DMEL = Derived Minimum Effect Level
- DNEL = Derived No Effect Level
- EC50 = Median effective concentration
- ECB = European Chemicals Bureau
- EEC = European Economic Community
- EINECS = European Inventory of Existing Commercial Chemical Substances
- ELINCS = European List of Notified Chemical Substances
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
- IC50 = Inhibition concentration, 50%
- IMDG = International Maritime Code for Dangerous Goods
- IUCLID = International Uniform Chemical Information Database
- LC50 = Lethal concentration, 50%
- LD50 = Median lethal dose
- MARPOL = International Convention for the Prevention of Marine Pollution from Ships
- PBT = Persistent, Bioaccumulative and Toxic substance
- PNEC = Predicted No-Effect Concentration
- REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
- TLV®/TWA = Threshold limit value – time-weighted average
- TLV®STEL = Threshold limit value – short-time exposure limit
- VOC = Volatile Organic Compounds
- vPvB = very Persistent and very Bioaccumulative