

MATERIAL SAFETY DATA SHEET

Revision date 09 October 2007

1 Identification of substance

- 1.1 Product details / trade name **ticon**
- 1.2 Manufacturer / Supplier
- | | |
|----------------------------|---|
| Name | <i>etkon AG</i> |
| Address | <i>Lochhamer Schlag 6, 82166 Gräfelfing</i> |
| Phone | <i>089 / 30 90 75 0</i> |
| Fax | <i>089 / 30 90 75 599</i> |
| e-mail | <i>info@etkon.de</i> |
| Internet | <i>www.etkon.de</i> |
| Area providing information | <i>Phone or Fax</i> |
| Emergency information | <i>As above</i> |
- 1.3 Emergency Information *As above*

2. Composition / Data on components

Pure titanium grade 2

Semi-finished product made from pure titanium DIN ISO 5832-2

Information on chemical composition is contained in technical standards.

3. Hazards identification

Titanium is attacked strongly by hydrofluoric acid/nitric acid mixture, can get on fire already at room temperature in the presence of dry chlorine. Explosive reactions with red smoking nitric acid (not with normal concentration) have been reported, can react like thermite with iron oxide at increased temperatures.

4. First aid measures

General Information: not applicable.

5. Firefighting measures

| | |
|--|--|
| Suitable extinguishing media: | <i>Covering with dry sand or salt</i> |
| Unsuitable extinguishing media for safety reasons: <i>gas filling or similar fire extinguishers</i> | <i>Water, foam, liquids, fire extinguishers with</i> |
| Special hazards due to the product itself, its products of combustion or gases arising | <i>Not known</i> |
| Special protective equipment in fire fighting: | <i>Customary use of safety equipment</i> |

6. Accidental release measures

| | |
|-------------------------------------|--|
| Person-related protective measures: | <i>Customary use of safety equipment</i> |
| Environmental protection measures: | |

No indications of negative behavior of the product in the environment known.

Methods for cleaning:

Cleaning methods customary for metallic semi-finished products

7. Handling and storage

No restrictions

8. Explosion controls and personal protective equipment

Components with critical values that require monitoring at the workplace: *None*

Personal protective equipment

Breathing protection:

Skin protection: *Protective gloves*

Eye protection: *Goggles*

Body protection: *Suitable protective clothing*

9. Physical and chemical properties

Appearance: *Silver-gray metallic, similar to stainless steel, duller as a rule*

Aggregate condition: *Solid*

Odor: *Odorless*

pH value *n. a.*

Boiling point range: *App. 3,660 °C*

Melting point range: *App. 1,670 °C*

Flame point: *Not known.*

Risk of explosion: *Explosive reactions with red smoking nitric acid (not with normal concentration) possible*

Relative density: *4.5 g/cm³*

Solubility: *Insoluble in water*

10. Stability and reactivity

Thermal decomposition / conditions to be avoided: *Titanium is attacked strongly by hydrofluoric / nitric acid mixture*

Dangerous products of composition: *Can get on fire already at room temperature in the presense of dry chlorine. Explosive reactions with red smoking nitric acid (not with normal concentration) have been reported; can react like thermite with iron oxide at increased temperatures.*

11. Toxicological information

Additional toxicological information: *Titanium is not toxic and is safe to handle in compact condition. If titanium dust or vapour arises ensure sufficient dust extraction or ventilation to avoid contact with the eyes or respiratory organs.*

12. Ecological information

Additional ecological information: *No information about negative behavior of the product*

13. Disposal considerations

Recommendation: *None for semi-finished products.*

14. Transport information

Not a hazardous substance with regard to known regulations.

15. Regulatory information

Hazard symbols:

Hazard causer:

R statements: *None*

S statements:

National regulations:

16. Other information

The information is based on the present state of our knowledge and refers to the product in its condition on delivery. It is intended to describe our product with regard to safety requirements and thus does not have the significance of assuring certain properties.

n.a. = not applicable