

SAFETY DATA SHEET

PRODUCTS RELATED TO THIS MSDS

PRODUCT	MATERIAL
BRACKETS METAL	SS 17-4 PH
TUBES BONDABLE	SS 17-4 PH + 316L (MESH BASE)
TUBES WELDABLE	SS 17-4 PH
BUTTONS BONDABLE	SS 17-4 PH + 316L (MESH BASE)
BUTTONS WELDABLE	SS 17-4 PH
BT2	SS 17-4 PH + 316L (MESH BASE)
TS2	SS 17-4 PH + 316L (MESH BASE)
LINGUAL CLEAT BONDABLE/WELDABLE	SS 316 L
CRIMPABLE HOOK	SS 316 L
CRIMPABLE STOP	SS 316 L
LINGUAL SHEATHS	SS 316 L
ACTIVA	SS 316 L

IDENTIFICATION OF THE MATERIAL

Raw materials used are basically stainless steel alloy (Aisi 300/600 - 316L, 17 - 4Ph).

CHEMICAL COMPOSITION

1. Up to 0.07% C
2. Up to 18% Cr
3. Up to 14% Ni (316L only)
4. Up to 5% Ni (17-4PH only)
5. Up to 2% Mn
6. Up to 3% Mo (316L only)
7. Up to 1% Si (depending from carbon's level contained)
8. Up to 0.45%Nb (17-4 Ph only)
9. Up to 5% Cu
10. Balance Fe

PHYSICAL - CHEMICAL PROPERTIES AND FLAMMABILITY

Appearance	Solid	Color	Silver-grey
Odor	Odorless	Safety Data	None
Ph-value	None		
<i>Change of status</i>			
Bowling point	n.a.	Melting point	1400 – 1550 °C
Combustion rate	n.a.	Flammability	n.a.

ORTHODONTIC MANUFACTURER SIA SRL

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Ignition temperature	n.a.	Auto-ignition temperature	n.a.
Comburent capability	n.a.	Explosion limit	n.a.
Vapor pressure	n.a.	Density at 20°	7,7 – 8.1 g/cm ³
<i>Solubility and scattering features</i>			
Soluble in water	Insoluble	Soluble in fat	Insoluble
Scattering coefficient	None		

REACTIVITY

Stability and reactivity: stable and not reactive

⇒

HAZARDS IDENTIFICATION

Information on toxicity: no toxic effects caused by the material in massive form or during the usual orthodontic process have been noticed.

Possible hazards during the working process:

⇒ **Effects of overexposure:** inhalation is very serious. A prolonged excessive exposition to dust, mist and fumes of this alloy may contribute to chronic respiratory ailments.

⇒ **Possible cancer hazard:** Nickel is treated as a potential agent, being included in the NTP and IARC lists. Some scientific studies have found an excessive incidence of cancer of the respiratory tract among workers involved in certain steps of nickel refining processes. However, several studies on workers exposed to various forms of nickel and its compounds have not shown any increased risk of cancer.

⇒ **Primary routes of entry:** inhalation of dust and fumes.

According to the Directive 67/548/EEC all products with a minimum Nickel content of 1% are classified in the same way as suspect carcinogen (category 3) and irritating for skin. Products which these sheets refer to, have form of massive metal alloy, therefore nickel cannot develop as possible hazardous material. No toxic effects caused by the material in massive form or during the normal orthodontic practices have been noticed. A prolonged and frequent contact may cause skin irritation and other allergic reactions in subjects sensitive to nickel.