

SAFETY DATA SHEET

PRODUCTS RELATED TO THIS MSDS

EXCALIBUR (SURGICAL KIT INSTRUMENTS)

CUTTERS

PLIERS

HAND/UTILITY INSTRUMENTS

IDENTIFICATION OF THE MATERIAL

Raw materials used are basically stainless steel alloy (Aisi – 425/410) for either cutting and no cutting instruments

CHEMICAL COMPOSITION

AISI 425 SS for Non Cutting Instruments

1.	Up to	0,48% C
2.	Up to	1% Si
3.	Up to	15% Cr
4.	Up to	0,15% V
5.	Up to	1% Mn
6.	Up to	0,60% Mo
7.	Up to	0,3% S
8.	Up to	0,3% P
9.	Balance	Fe

AISI 410 SS for Cutting Instruments

10.	Up to	0,15% C
11.	Up to	1% Si
12.	Up to	13,5% Cr
13.	Up to	1% Mn
14.	Up to	0,3% S
15.	Up to	0,4% P
16.	Balance	Fe

PHYSICAL - CHEMICAL PROPERTIES AND FLAMMABILITY

AISI 425/410 LS			
Appearance	Solid Wire	Colour	Silver-grey
Odour	Odourless	Safety Data	None
Ph-value	None		
<i>Change of status</i>			
Bowling point	High	Melting point	1315 – 1537 °C
Combustion rate	n.a.	Flammability	n.a.
Ignition temperature	n.a.	Auto-ignition temperature	n.a.
Comburent capability	n.a.	Explosion limit	n.a.
Vapour pressure	(20°C): NIL	Density at 20°	7,5 – 8.5 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

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HAZARDS IDENTIFICATION

Information on toxicity: Specialty steel alloys are generally not considered hazardous in the form shipped (solid bars, billets wire, etc.), however, if your process involves grinding, melting, welding, cutting, or any other process that causes a release of dust or fume, hazardous levels of dust or fume of the constituents of these alloys could be generated. The following is a list of potential health effects for all hazardous elements that are possibly contained in our alloys, Please refer to section II titled “hazardous ingredients” for a list of those specific elements contained in this particular alloy.

Health Effects

Iron oxide: Has caused irritation of the eyes, nose, and skin of excremental animals, It may have the same effect on humans.

Chromium: Ferrochrome alloys have been associated with lung changes in workers exposed to these alloys.

Cobalt: Fume or dust causes irritation of the nose and throat and may cause an allergic skin rash. Also has been reported to cause respiratory disease with symptoms ranging from cough and

shortness of breath to permanent disability and death. The symptoms frequently go away when exposure has stopped, but

sometimes the symptoms progress after exposure has ceased.

Manganese: Inhalation of manganese fume may cause “metal fume fever” with symptoms of chills, fever, nausea, cough, dry throat, weakness, muscle aches, and a sweet or metallic taste in the mouth. Prolonged or repeated exposure may affect the nervous system, with difficulty in walking and balancing, weakness or cramps in the legs. Hoarseness of the voice, trouble with memory or judgment, unstable emotions or unusual irritability. The respiratory system may also be affected by a pneumonia like illness with symptoms of coughing, fever, chills, body ache, chest pain and other common signs of pneumonia.

Nickel: Fumes are respiratory irritants and may cause respiratory disease, skin contact can also cause an allergic skin rash, nickel and its compounds have been reported to cause cancer of the lungs and sinuses.

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.