PRODUCTS RELATED TO THIS MSDS (ARCH – WIRE – SPRING)

BETA-TITANIUM

Chemical Nature, Sales Name, Use: Titanium Molybdenum Alloy, ßIIICNA™, Beta 3, TitanMoly Orthodontic Wires

CHEMICAL COMPOSITION

		CAS #	Exposure Limit (OSHA) in mg/m³	Threshold Limit Value in mg/m³
Up to	62 – 81,75% of Ti	7440-32-6	5*	10’
Up to	4,5 – 10 % of Zr	7440-67-7	5	5
Up to	3,75 – 8 % of Sn	7440-31-5	2	2
Up to	10 – 20 % of Mo	7439-98-7	5*	10’

* = respirable fraction of dust
’ = exposure limits for metal or insoluble metal oxide of the metal

PHYSICAL - CHEMICAL PROPERTIES AND FLAMMABILITY

Appearance	Solid	Color	Dark-grey
Odor	Odorless	Safety Data	None
Ph-value	None		
Change of status			
Bowling point	n.a.	Melting point	1800 – 1950 °C
Combustion rate	n.a.	Flammability	Not ignitable
Extinguishing Media	DO NOT USE WATER OR CO2 EXTINGUISHERS! Sand, dolomite, graphite power or sodium chloride work best.	Auto-ignition temperature	Titanium fines can ignite if airborne. They are a moderate fire and explosive hazard when exposed to heat, flame, electric current or static electricity.
Comburent capability	n.a.	Explosion limit	n.a.
Vapor pressure	n.a.	Density at 20°	7,7 – 8.1 g/cm³
Solubility and scattering features			
Soluble in water	Insoluble	Soluble in fat	Insoluble
Scattering coefficient	None		

REACTIVITY

⇨ **Stability and reactivity**: stable and not reactive

FIRST AID MEASURES

Inhalation: Use local ventilation and/or respiratory protective equipment to limit exposure to airborne dusts. If sudden overexposure does occur: remove victim to fresh air, begin artificial respiration, if victim is not breathing.

Skin contact: Exposure or repeated contact may irritate the skin. Avoid frequent and prolonged contact. Wear suitable protective clothing and gloves. In case of contact: brush off skin and clothing. Wash with soap and water. Remove metallic particles and cleanse wounds

Ingestion: Seek prompt medical help.

Eyes: Flush eyes with water.

HAZARDS IDENTIFICATION

Information on toxicity: Product tested for bio-compatibility with results concluding negative toxicological reaction. Tests results on file.

Possible hazards during the working process:

⇨ **Effects of overexposure**: Special protective clothing is not normally needed. Provide local exhaust ventilation in areas where metal fumes or dusts are.

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

For purposes of this MSDS, occupational exposure to alloys is taken to mean dusts, fumes, or solutions containing metals that can become airborne or can spill on skin or in the eye. Occupational exposure to alloys does not include solid products (i.e. ingots or castings), provided no particle generating operations, such as grinding or cutting, occur. In most industrial situations, the significant routes of exposure would include inhalation, skin and eye contact. Titanium metal is considered relatively nontoxic.

DISPOSAL CONSIDERATION

⇨ **Solid forms**: Articles made of titanium are not hazardous. No special disposal regulations apply.

⇨ **Dustes and Fines**: If airborne, Titanium fines can burn. When ignited, titanium is very difficult to extinguish. Before being disposed of titanium fines should be stabilized (solidified or diluted with sand or other no combustible substances) to prevent being ignited. Titanium alloys can be landfilled as an industrial waste.

REGULATORY INFORMATION

⇨ **Hazardous**: Titanium and Titanium alloys are not hazardous.

FURTHER INFORMATION

⇨ **General information**: The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. Therefore, it should not be construed as guaranteeing specific properties.