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**MATERIAL SAFETY DATA SHEET: DORNA A**

**Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200**

**SECTION I MANUFACTURER AND MATERIAL DESCRIPTION**

Manufacturer	<b>UMS Swiss Metalworks Ltd</b> <b>Weidenstrasse 50</b> <b>CH – 4143 Dornach</b> <b>Switzerland</b>	Telephone Number	+41 61 705 32 55
		Telefax Number	+41 61 705 36 10

Material Description	Trade name	Special brass
	Designations	DORNA A

**SECTION II INGREDIENTS Occupational Exposure Limits**

Copper	56.5 – 58.5 %	Dust 1.0 mg/m <sup>3</sup>	Fume 0.1 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Zinc	Remainder	Dust -	Fume 5 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Lead	≤ 0.5 %	Dust -	Fume 0.05 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Iron	0.5 – 1.5 %	Dust -	Fume 10 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Nickel	≤ 0.6 %	Dust 0.5 mg/m <sup>3</sup>	Fume -	(OSHA 8hr-TWA)
Manganese	1.0 – 2.0 %	Dust 5.0 mg/m <sup>3</sup>	Fume 1.0 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Tinn	≤ 0.3 %	Dust 2.0 mg/m <sup>3</sup>	Fume -	(OSHA 8hr-TWA)
Aluminium	≤ 0.1 %	Dust 6.0 mg/m <sup>3</sup>	Fume 6.0 mg/m <sup>3</sup>	(OSHA 8hr-TWA)
Chromium	-	Dust -	Fume -	
Silicon	-			

**- : Means no indication**

**SECTION III PHYSICAL DATA**

Physical form	solid	Specific gravity	8.75
Boiling temperature	N/A	Water solubility	insoluble
Melting temperature [°C]	880 - 895	pH	N/A
Vapor pressure (20 °C)	N/A	Color	red
1.0 mm Hg at 1628 °C for Cu		Odor	N/A

**SECTION IV FIRE AND EXPLOSION HAZARD DATA**

Flashpoint: N/A                      Auto-ignition temperature: N/A                      Flammability limits: N/A

In the solid form, there are not fire or explosion hazards with this alloy.  
 Fine chips or dust may ignite and should be stored in a well-ventilated area.  
 In case of fire, use extinguishing agents appropriate for the surroundings or materials. Dry chemicals or sand should be used to extinguish fires. Fire fighters should wear full protective clothing and where conditions warrant NIOSH-approved self-contained breathing apparatus, see Sections VI and VII.

**SECTION V REACTIVITY DATA**

Copper and Copper alloys are stable under normal conditions of transport, use and storage

# MATERIAL SAFETY DATA SHEET

## SECTION VI HEALTH HAZARD DATA

TLV: See Section II  
 Primary Routes of Entry: Inhalation of dust or fumes

**Copper:** Under normal handling and use, exposure to the solid form of copper or copper alloys presents few health hazards. Thermal cutting, melting, machining/grinding may produce fumes or dust containing the component elements, and breathing these fumes or dust may present potentially significant health hazards. The exposure levels in Section II are relevant to fumes and dust. Fumes of copper may cause metal fume fever with flu-like symptoms, and copper may cause skin and hair discoloration.

**Zinc:** Overexposure to zinc fumes may cause nonfatal metal fume fever

**Lead:** Inhalation of lead fumes or dust, or ingestion of lead compounds, can cause lead poisoning, characterized by abdominal pain, joint and muscle pains, or weakness. Prolonged overexposure can cause central nervous system disorders.

**Nickel:** Excessive inhalation of nickel fumes has been associated with respiratory cancer. Also, nickel is a potential sensitizer, and thus may cause allergic reactions

**Manganese:** Excessive and prolonged inhalation of manganese (generally over 2 years exposure) can cause damage to the central nervous system. Specifically, the pathology resembles to Parkinson's Disease.

## SECTION VII SPILL, LEAK AND DISPOSAL PROCEDURES

No special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet-sweeping to prevent heavy concentrations of airborne dust. Cleanup personnel should wear respirators and protective clothing. Scrap metal can be reclaimed for reuse. Follow Federal, State and Local regulations regarding disposal.

## SECTION VIII SPECIAL PROTECTION INFORMATION

Use general and local exhaust ventilation to keep airborne concentrations of dust and fumes below the TLV. When required, employees should wear MSHA- or NIOSH-approved respirators for protection against airborne dust or fumes. Approved safety glasses and/or goggles should be worn during any machining, grinding, cutting or other operation from which airborne particles may be emitted. Food or drink should not be consumed in the work area.

## SECTION IX SPECIAL PRECAUTIONS AND COMMENTS

Use good housekeeping practices to prevent accumulations of dust and to keep airborne dust concentrations at a minimum. Avoid breathing dust or fumes. Store dust away from source of ignition.

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