

**MATERIAL SAFETY DATA SHEET**

**SECTION I**

CAS NR. 7440-48-4

FORMULA : Co

**CHEMICAL NAME : ELECTROLYTIC COBALT**

CHEMICAL FAMILY : COBALT. TRADE NAME AND SYNONYMS : COBALT VOTORANTIM

MANUFACTURER'S NAME : VOTORANTIM METAIS NIQUEL

ADDRESS : AVENIDA DR. JOSÉ ARTUR NOVA, NR 1.309

C.E.P. 08090-000 - SÃO PAULO - SP - BRAZIL

EMERGENCY TELEPHONE NUMBER : 55-011-6956.8600

**SECTION II - HAZARDOUS INGREDIENTS**

BASE METAL : COBALT ( 99,9 % COBALT METAL ) Co

LIQUIDS, SOLIDS, GASES OR HAZARDOUS MIXTURES : NONE

**SECTION III - PHYSICAL DATA**

BOILING POINT : 2900° C

APPEARANCE : METALLIC

PHYSICAL STATE : SOLID

ATOMIC WEIGHT : 58,93

EVAPORATION RATE : NOT APPLICABLE

PH : NOT APPLICABLE

ESPECIFIC GRAVITY ( H<sub>2</sub>O = 1 ) : 8,9

ODOUR : NONE

VAPOUR PRESSURE : NOT APPLICABLE

VAPOUR DENSITY : NOT APPLICABLE

MELTING POINT : 1.495° C

COEFFICIENT OF WATER / OIL  
DISTRIBUTION - INSOLUBLE

**SECTION IV - REACTIVITY DATA**

STABILITY : STABLE

INCOMPATIBILITY : NONE

HAZARDOUS DECOMPOSITION PRODUCERS : NONE

CONDITIONS OF REACTIVITY : CONTACT WITH MINERAL ACIDS WILL RELEASE  
HYDROGEN - A DANGEROUS GAS.

**SECTION V - FIRE AND EXPLOSION DATA**

FLAMMABILITY : NO

MASSIVE FORMS OF COBALT DO NOT PRESENT A FIRE OR EXPLOSIVE HAZARD.

**SECTION VI - HEALTH HAZARD DATA**

THRESHOLD LIMIT VALUE : OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT.  
ACGIH - AMERICAN CONFERENCE OF GOVERNMENT  
INDUSTRIAL HYGIENISTS.  
0.5 MG / M3 FOR AN 8 HOURS EXPOSURE.

EFFECTS OF OVER EXPOSURE :

MAY CAUSE SKIN SENSITIZATION IF METAL IS SMELTED, INHALATION OF DUST  
AND FUME MAY OCCUR AND MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.

CHRONIC EFFECTS :

INHALATION OF PARTICULATES OF COBALT FOR PROLONGED PERIODS AND EXCESSIVE  
AMOUNTS MAY CAUSE A FORM OF INTERSTITIAL PNEUMONIA.

**SECTION VII - SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION : USE NIOSH (NATIONAL INSTITUTE FOR OCCUPATIONAL  
SAFETY AND HEALTH) APPROVED RESPIRATORS TO PREVENT EXPOSURE IN EXCESS  
OF TLV.

VENTILATION : IF SOLID FORMS OF COBALT ARE CONVERTED TO PARTICULATES  
MAINTAIN WORKING ENVIROMENT BELOW THE RECOMMENDED EXPOSURE BY USE OF  
APPROPRIATE VENTILATION.

EYE PROTECTION : SUGGEST GOGGLES TO PREVENT MATERIAL FROM GETTING INTO  
THE EYES.

**SECTION VIII - SPILLAGE, LEAKAGE, HANDLING, STORAGE**

UNDER NORMAL HANDLING AND USE, MATERIAL IS NOT DUSTY AND DOES NOT  
PRESENT SPILLAGE AND LEAKAGE PROBLEMS.  
DO NOT STORE ADJACENT OR NEAR TO MINERAL ACIDS.