

## Heavy Metals

All Ruco Inks are manufactured to be non-toxic. The standards used include the TSCA Regulations, EN-71 Toy Standard and Coneg Regulations. These regulations primarily address the levels of heavy metals that an ink contains and is based on a dried and cured ink film

We certify that we produce and market the Ruco Printing inks. According to the information of our raw material suppliers the ingredients of the basic inks of the above series meet the regulations of DIN EN 71, part 3 as well as ASTM F963-95, (migration of certain elements) and contain the following maximum migrated elements in mg/kg:

Element	DIN EN 71, Part 3	ASTM F963-95
Antimony	60 mg/kg	60 mg/kg
Arsenic	25 mg/kg	25 mg/kg
Barium	1000 mg/kg	500 mg/kg
Cadmium	75 mg/kg	75 mg/kg
Chromium	60 mg/kg	60 mg/kg
Lead	90 mg/kg	90 mg/kg
Mercury	60 mg/kg	60 mg/kg
Selenium	500 mg/kg	500 mg/kg

Also referring to this information the ingredients of these products contain less than the 100 ppm for the total of lead, cadmium, mercury and hexavalent chromium. Therefore they meet the limitations of the packaging as well as the CONEG regulations. We do not use any ingredient with the mentioned metals being a constitutional part thereof.

The standards the FDA imposes for approval range in their limitations from slight to Class 6 (implantable). Ruco inks have passed the most stringent of tests and are used by many medical device manufacturers. Consumer products must meet a lower standard -- the EN-71 Toy Standard usually applies in these situations. Ruco Inks are used in many baby products, medical products, toys and many other consumer items. The standards we meet are;

- ASTM F963-96a,4.3.5 "Standard Consumer Safety Specification on Toy Safety"
- USP24, NF19 Class VI
- European Standard on Safety of Toys, EN-71, Part 3
- CONEG
- TSCA "Toxic Substances Control Act"

NOTE: Occasionally testing can detect elevated levels of soluble barium. Barium Sulphate, which is used as filler, is an ingredient in the Ruco Ink. This is a "colloidal suspension of a barium reagent" and is not considered a hazard. -- however it is not considered a "soluble barium" which is hazardous. The tests typically used have a difficult time distinguishing between the presence of "soluble barium" and "colloidal suspensions of barium reagents". Since this is the case it is always possible to find elevated levels of barium, these errors can be up to 30% depending on the test method. Because this has happened in many cases the European Commission that administers the EN -71 Regulation raised the acceptable limit of barium from 500 to 1000 parts per million in 1993.