Heavy metals in wastewater.

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Heavy metals pollutants.

- Most of heavy metals are harmful elemental pollutants.
- Heavy metals includes essential metals i.e. iron and toxic metals i.e. aluminium, manganese, copper, chromium & mercury.

Heavy metals pollutants.

Adverse effects of toxic metals in human and environment.

- Mercury, from gold mining, industrial waste, coal – in organometallic form i.e. dimethylmercury causes fetus deformation & brain damages.
- Lead, from mining, fuel, coal – inhibition of synthesis of hemoglobin, affects central & nervous system.

Heavy metals pollutants.

Adverse effects of toxic metals in human and environment.

- Aluminium, from industrial waste – dementia & Alzheimer diseases.
- Copper, from mining, industrial waste, metal plating – essential trace element, toxic to plant & algae at high level.
- Iron, from industrial waste, plumbing, corrosion & acid mine water – essential elements, lower aesthetic value, staining.

Heavy metals pollutants.

Adverse effects of toxic metals in human & environment.

- Zinc, from industrial waste, metal plating & plumbing – essential elements, toxic to plant and algae at high value.
- Chromium, from metal plating – essential as chromium trivalent but toxic as chromium hexavalent.

Forms of heavy metal.

- Heavy metal in wastewater mostly in precipitates form as in organic-metalloid i.e. dimethylmercury, colloidal or inorganic forms i.e. copper sulfate & nickel sulfate.
- Mostly as semi solids, particulates and precipitates at water bed, mixed well with mud, silts and sludge.
- Some may be in bioaccumulated form, stored in highly toxic tolerant organism i.e. shellfish.
- Only trace amount of heavy metals in dissolved form as in acidic waters.

Heavy metals in wastewater.

The end.