

Carcinogenic Risk Assessment of Human Due to Exposure to Toxic Textiles Industry Dyes †

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Abstract: Textile dyes, along with a large number of industrial pollutants, are highly toxic and potentially carcinogenic so that they are related to environmental degradation and diseases in animals and humans. The textile industry is one of the anthropogenic activities that most consume water and pollute water bodies. The acute toxicity to textile dyes is caused by oral ingestion and inhalation, especially by exposure to dust, triggering irritation to the skin and eyes. The carcinogenic comprises multiple stages favored initially by mutagenic factors. The textile dye may offer carcinogenicity, those of the azo and nitro type, and its effect manifests over time. The consequences of the xenobiotic and recalcitrant nature of the dyes end up impacting the structure and functioning of the ecosystems. Long-term exposures, in particular, bring profound unfolding, For example, to aquatic biota and human health, as is the case with complexed metal dyes. This Category of dyes is widely used by the textile industry, presenting in their copper, cobalt, and chromium, etc. once released in the aquatic environment, the heavy metal cations can be assimilated by the fish gills because they present negative charges, allowing their accumulation in certain tissue. Thus, through the food chain, they can reach the human organs and affect their health.

Keywords: azo dye; carcinogenic; mutagenic; anthropogenic; textile industry.

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Conflicts of Interest

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