

## Toxicology and Its Types of Toxins

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### PERSPECTIVE

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### ABSTRACT

Toxicology is a scientific topic that deals with the analysis of the harmful effects of toxic substances on living organisms as well as the practice of detecting various toxins and toxicants exposures. It overlaps with biology, chemistry, toxicology, and medicine. In toxicity, the relationship between quantity and impact on the exposed organism is significant. Dosage, duration of exposure (acute or chronic), mode of exposure, species, age, sex, and environment are all ways to determine chemical toxicity.

### INTRODUCTION

Environmental toxins are possible to describe due to their complexity. The sections that follow focus on some of the compounds that are widely considered to be environmentally toxic. Some of the chemicals fall under over one classification.

#### Toxins in water and food

**Arsenic:** Arsenic can be absorbed into the body or ingested as a residue; generally, most harmful substances are ingested through food or drink.

**Atrazine:** Atrazine is an herbicide that's also widely used to kill weeds in both agricultural and domestic settings. It is one of the world's most widely used pesticides.

**Dioxins:** Carcinogens are by products of both industrial and natural processes (forest fires, volcanoes). They are deposited in animal lipids and tissues. Even though the fact that environmental regulations have considerably reduced the occurrence of dioxins, they continue to pose a danger to human health and have been related to cancer and a variety of other disorders.

**Lead:** Cadmium poisoning in drinking water is usually formed by leakage in transmission or piping systems and presents a danger for airborne and domestic exposures. Lead is to blame for the on-going public health crisis in Flint, Michigan, where individuals have indeed been exposed to the high level of toxin due to toxic drinking water.

**Mercury:** Mercury is released into the air as a result of industrial pollution, and fish in lakes, rivers, and the sea absorb it. Mercury, which is exceedingly hazardous and extremely toxic, is found in almost all fish and seafood. The US Food and Drug Administration have issued fish intake guidelines that are especially important for pregnant women, nursing mothers, and youngsters.

### Air toxins

**Cigarette smoke:** Cigarette smoking is the primary preventable cause of mortality rates, contributing to 90% of lung cancer deaths and 80% of deaths from Chronic Obstructive Pulmonary Disease (COPD).

**Ozone around ground level:** Although ozone protects us from the sun's UV light in the upper layers of the atmosphere, ozone at ground level is a key component of smog. Whenever exposed to high levels of ozone, breathing can be damaged.

**Poisonous gases:** Excess oxides of nitrogen, carbon monoxide, and sulfur dioxide contribute to ozone generation and acid rain as a result of pollution.

**Particulate matter:** Particles in the air matter are made up of solids like black carbon and mineral dust that mix with liquid droplets and are exposed to the air. Particulate matter can come from various places, although is most frequently emitted by power stations, manufacturing facilities, and automobiles. In patients with heart or breathing problems, particle pollution has been related to cardiac diseases, worse asthma, decreased lung function, and early mortality.