



Deaths Due to Hazardous Chemical

Why in News

According to latest estimates by the [World Health Organization \(WHO\)](#), **deaths due to exposure to hazardous chemicals worldwide rose 29% in 2019** from what they were in 2016.

- **Two million people died** due to exposure to hazardous chemicals in **2019**, compared to **1.56 million in 2016**. Between **4,270 and 5,400 people died every day** due to unintentional exposure to chemicals.
- The estimates were released by WHO Director-General, during the Ministerial Dialogue held at the Berlin Forum on **Chemicals and Sustainability: Ambition and Action towards 2030**.

Key Points

▪ Hazardous Chemical:

- A hazardous chemical is a chemical that has **properties with the potential to do harm** to human or animal health, the environment, or capable of damaging property.
- They are frequently used in the **workplace as raw materials, solvents, cleaning agents, catalysts**, and for a number of other functions.
- These are normally classified according to the risk they pose to health and property. Hazardous chemicals are categorized as follows:
 - **Flammable or explosive** (e.g. petroleum, TNT, plastic explosives)
 - **Irritating or corrosive to skin, lungs, and eyes** (e.g. acids, alkali, paints, fumes)
 - **Toxic chemicals** (e.g. carbon monoxide, hydrogen sulfide, cyanide, [heavy metals](#))
- These are present in **the air, in consumer products, at the workplace, in water, or in the soil**.
- They **can cause several diseases** including mental, behavioural and neurological disorders, cataracts, or asthma.

▪ Chemicals Causing Most Deaths:

◦ Lead Poisoning:

- It was responsible for **nearly half of the deaths in 2019**.
- Lead exposure causes [cardiovascular diseases \(CVD\)](#), **chronic kidney diseases** and **idiopathic intellectual disability**.
- Lead is **added to paints** for various reasons, including enhancing the colour, reducing corrosion and decreasing the drying time.
- Just 41% of countries including India, have legally binding controls on the production, import, sale and use of lead paints.
- In 2020, [UNICEF](#) too had raised concerns on the impact of lead pollution on the health of children.

- Approximately 800 million globally have blood lead levels at or above the

permissible quantity (5 micrograms per decilitre ($\mu\text{g/dL}$)).

- **Particulates and Carcinogens:**

- **Chronic obstructive pulmonary disease (COPD)** from occupational exposure to **particulates (dust, fumes and gas)** and **cancers** from occupational exposure to **carcinogens (arsenic, asbestos and benzene)**, too accounted for a substantial share of the preventable deaths.

- **Disability-adjusted Life-years Lost**

- In 2019, **53 million disability-adjusted life-years were lost**. This is an increase by over 19% since 2016.
- There has been a 56% increase in disability-adjusted life-years lost due to exposure to lead since 2016.
- **Disability-Adjusted Life Years (DALYs)** is the sum of the number of years of life lost due to premature death and a weighted measure of the years lived with disability due to a disease or injury.

- The use of DALYs to track disease burden is recommended by India's [National Health Policy of 2017](#).

Steps Taken

There are many international chemical conventions restricting or even banning the production, use, and trade of certain hazardous chemicals.

- **[Stockholm Convention on Persistent Organic Pollutants \(POPs\)](#)**: To protect human health and the environment from the harmful effects of POPs (i.e. toxic chemicals).
 - **India has ratified and acceded** to the convention.
- **[Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade](#)**.
 - **India ratified** the Convention in 2005.
- **[Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal](#)**.
 - **India** ratified the Convention.
- **[The Chemical Weapons Convention \(CWC\)](#)** is an arms control treaty prohibiting the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons by States Parties.
 - **India is a signatory and party** to the Convention.
- **[The Minamata Convention on Mercury](#)** is a global treaty to protect human health and the environment from the adverse effects of mercury and its compounds.
 - More than 140 countries including India have ratified the Convention.
- **[The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances](#)** provides comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals.
 - **India** is one among the signatories.
- The **Chemicals Convention concerning Safety in the use of Chemicals at Work** was promulgated by the International Labor Organization (ILO) in 1990 and entered into force on 4th Nov 1993.
- **The Strategic Approach to International Chemicals Management (SAICM)** is a policy framework to promote chemical safety around the world.
 - The first Conference and the process to develop the strategic approach were co-convened by the **[United Nations Environment Programme \(UN Environment\)](#)** along with other stakeholders.

Way Forward

- **Need For Comprehensive Law:** There is a need for a comprehensive law in the countries to regulate chemical use, production and safety.
- In this context, India must take note as the country's **national chemical policy has been pending** since 2012.
- **Reducing or Removing Chemical Exposure:** Extreme cautions are to be taken when **handling, storing, transporting, and using hazardous chemicals.**
 - The user needs to wear protective clothing and personal protective equipment to protect themselves from hazardous chemicals.

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