Hazardous Chemicals- Four Routes of Entry Stats and Facts

FACTS

Substances (individual chemical compounds) and mixtures can have health effects and/or physical effects (which may impact safety) and may also have an effect on the environment.

1. Hazards to health from exposure to a chemical depend on a number of factors, including the chemical itself, the individual, the route of exposure, the duration and frequency of exposure and the dose.
2. Individuals demonstrate differing levels of susceptibility to the hazards of chemicals based on their genetic make-up, previous exposures, age, illness, diet, etc.
3. Some chemicals are explosive, oxidising or flammable, and have physical effects (which may impact safety). Safety Effects
4. Some chemicals are hazardous if released into the environment, but will have differing effects depending on where they are released, eg to air, water or land.
5. Due to the potential risk of harm to health, physical (safety), or the environment, chemicals must be used in a safe way.

STATS

- In 2017, 41 U.S. workers died on the job after a single episode of inhaling chemicals and chemical products—7 more fatal injuries than in 2016. This number ranged between 33 and 55 fatal injuries each year from 2011 to 2017, with a total of 297 fatalities across the 7-year span.
- Inhaling carbon monoxide led to the most fatalities during this time period (116 fatal injuries) followed by inhaling hydrogen sulfide (46 fatal injuries).

- Of the fatal single episode inhalations of chemicals and chemical products from 2011 through 2017, 37 percent occurred in a confined space (110 fatal injuries). All fatal single inhalations of methane gas involved a confined space (9 fatal injuries).
- Other chemicals and chemical products that led to fatal injury after a single inhalation in spaces that were confined and not confined were toluene (5 fatalities), solvents and degreasers (7 fatalities), dichloromethane (8 fatalities), and coal, natural gas, petroleum fuels and products (11 fatalities).
- Of the more than 80,000 chemicals currently used in the United States, most haven’t been adequately tested for their effects on human health.