

# Target organs: What are they and why do they matter?



Lungs



Liver



Kidneys

## Key takeaways

- Our organs have specific functions that work together to keep us healthy.
- Some toxins target specific organs and can permanently damage them. That information can be found in the substance's SDS.
- Learning more about the substances you work with, eat, drink, or use as medication and the organs they target will help you protect your overall health.

Have you read a safety data sheet and seen the term "target organ"? What does that mean?

A target organ is an organ in the body that is most affected by a specific chemical, drug, bacteria, or other substance. For instance, the bacteria that causes tuberculosis targets the lungs. Most of the organs and systems in the body can be a target, but the most commonly referred to as a target organ when reading a safety data sheet are:

- **Lungs, liver, kidney, heart, blood, or circulatory system, brain or central nervous system, and skin** (yes, the skin is considered an organ.)

All of the above organs are considered vital to our life functions in some way. If we're exposed to a chemical or other substance that damages one or more of these organs, we can become very ill, get a disease, or even die. Our organs are exposed to many different things every day. Our bodies work to break down, use, or detoxify what we are exposed to from the food we eat, the air that we breathe, and the chemicals or other contaminants in our

environment. It's important to understand that our organs work together to keep us healthy every day and protecting them is essential.

Understand what substances we work with and if, by their design or nature, they target specific organs. A few well-known toxins that affect specific target organs (some impact several organs) include:

**Lungs** - asbestos, radon, cigarette smoke, glues

**Liver** - methylene chloride, vinyl chloride

**Kidneys** - cadmium, lead, chlorinated hydrocarbon solvents

**Heart, blood, circulatory system** - carbon monoxide, nitrates, methylene chloride

**Brain, central nervous system** - mercury, arsenic, toluene, methanol

**Skin** - nickel, arsenic, cement (chromium), glues



Heart



Brain



Skin

## Take action (Complete one or more activities as a team)

- GROUP DISCUSSION:** Choose a workplace substance. Review its safety data sheet and discuss what target organs are identified.
- FIELD TRIP:** Choose a workplace substance and pull its SDS to identify target organs. Observe where and how this substance is used.
- EXPOSURE CONTROLS REVIEW:** Choose a workplace substance and pull its SDS to identify target organs. Are adequate precautions in place to prevent exposure to this chemical?

