

Safe and Sustainable by Design (SSbD) Information Map

What does 'Safe and Sustainable by Design' (SSbD) mean for companies that develop chemicals and materials?

Description

What does 'Safe and Sustainable by Design' entail when developing chemicals and materials?

SSbD is an approach for developing sustainable chemicals and materials with the goal of preventing harm to human health and the environment.

Goals

What are the societal goals of 'Safe and Sustainable by Design'?

- To protect human health, the environment and nature for current and future generations.
- To realise a circular economy in which materials are kept in use as a product, or as components or raw materials.
- To encourage innovations and revenue models that support a sustainable, competitive chemical sector.

Benefits and drawbacks

What are the potential benefits for companies of 'Safe and Sustainable by Design'?

- Working in a socially responsible manner and anticipating regulation matters, makes companies future-proof.
- Companies have a good reputation and are appealing to partners, investors, employees and consumers.
- SSbD encourages companies to innovate, which provides them with a competitive advantage.
- Companies discover potential safety risks early, enabling them to adjust their innovation process.
- Companies reduce the risk of becoming liable in the future for harm to human health and the environment.
- Value chain partners develop a common language and work method that facilitates cooperation.

What are the potential drawbacks for companies of 'Safe and Sustainable by Design'?

- It takes time to build up the necessary knowledge, skills and collaboration in the value chain.
- Not all companies have the capacity and resources to invest in SSbD.
- To work in accordance with the SSbD principles and achieve long-lasting results, a culture change is necessary.
- SSbD may require the modification of production processes and chemical installations.
- Responsibly developed chemicals and materials may be more expensive.
- Not all companies will be successful in developing safer, more sustainable alternatives with the same functionality.

Principles

What are the principles underlying the concept of 'Safe and Sustainable by Design'?

- Developers incorporate safety and sustainability in the development process right from the start.
- Companies take responsibility for safety and sustainability above and beyond legal requirements.
- Developers make trade-offs between functionality, safety and sustainability explicit.
- Companies develop chemicals and materials made from sustainably produced raw materials.
- The chemicals and materials remain safe throughout their entire life cycle.
- The chemicals and materials are either biodegradable or reusable after being used.
- Value chain partners collaborate to continually improve the safety and sustainability of chemicals and materials.

Tips

What are some tips for companies that want to get started with 'Safe and Sustainable by Design'?

- Engage in conversation with each other within the company about SSbD and make it part of the company strategy.
- Analyse the product portfolio in terms of risks or opportunities with respect to safety and sustainability.
- Gather information on safety and sustainability from literature, databases, value chain partners and experts.
- Invest in safety and sustainability knowledge, including toxicology and lifecycle analysis.
- Start researching alternative chemicals, materials and processes, and perform interim assessments.

About this map

This Information Map shows what 'Safe and Sustainable by Design' (SSbD) means for companies that develop chemicals and materials. It also provides tips for companies on how to get started with SSbD. In addition, the map is also useful for value chain partners and experts who wish to collaborate closely with these companies. The SSbD concept is still very much under development – what we have provided here is a general overview. This map concerns the development of chemicals and materials. Their subsequent application is also relevant from a safety and sustainability perspective, such as when chemicals and materials are a component or ingredient of products. This Information Map was commissioned by the Ministry of Infrastructure and Water Management of the Netherlands and made by De Argumentenfabriek. The content of the map is based on the outcome of three thinking sessions with experts from the Ministry of Infrastructure and Water Management, knowledge institutions and chemical companies. We thank all of them for contributing their ideas and suggestions.