

# Scientific guidance to prevent and mitigate chemical accidents

May 4 2017

---



The JRC handbook describes common reference scenarios for assessing the risks associated with industrial sites. Credit: Fotolia AVTG

A handbook published by the JRC supports EU Member States and third countries in their decisions to reduce the impacts of major industrial

accidents. It provides common reference scenarios for authorities to assess the risks associated with industrial sites where dangerous substances are present, taking into account their proximity to residential areas, transport infrastructure or other public spaces.

The consequences of industrial accidents can be severe, especially when the establishment is located close to residential areas, transport hubs such as train stations, shopping centres or other [public spaces](#).

In 2000, an explosion in the fireworks depot at the Dutch town of Enschede killed 22 people, injured over 900 and destroyed a significant part of the built areas of the town. Just over a year later, the explosion of an ammonium nitrate storage facility in Toulouse, France, caused over 30 deaths, 10 000 injuries as well as significant property damage and psychological trauma among the population due to the close proximity of the storage facility to the dense urban area.

## **Different approaches to determine safety distances**

In order to reduce the impacts of this kind of accidents, a legal requirement was introduced into the EU legislation (the Seveso Directive) in 1996, which encourages the establishment of appropriate safety distances between public areas and the industrial sites listed under the Seveso Directive (Seveso sites).

The Directive does not provide detailed instructions on how to implement this requirement, allowing Member States to take into consideration their historical norms and social and cultural values that are unique to each country.

As a result, the methods and criteria to fulfil this obligation are quite diverse, resulting in different decisions on what constitutes an appropriate safety distance. This makes national governments vulnerable

to accusations of rules that might be seen too flexible or too tight in comparison to other Member States.

## **Handbook provides common scenarios for risk assessment**

The Handbook of Scenarios for Assessing Major Chemical Accident Risks was produced by the JRC in collaboration with the Land-Use Planning Task Force, a group of industry and competent authority experts from EU Member States.

The handbook describes common reference scenarios, which allow national authorities to consider the full range of possible outcomes when assessing the risks associated with a major hazard site.

The handbook provides a common framework based on the rules of science and logic. The use of common reference scenarios should also increase the confidence of citizens that all necessary measures are being taken to reduce the impacts from serious chemical accidents.

The information in the handbook is aimed to assist EU Member States and third countries implementing similar legislation, especially those that do not yet have a systematic approach for ensuring that land-use planning decisions are in compliance with the requirements of the Seveso Directive.

The scenarios may also be useful for emergency planning.

Provided by CORDIS

Citation: Scientific guidance to prevent and mitigate chemical accidents (2017, May 4) retrieved

26 April 2024 from

<https://phys.org/news/2017-05-scientific-guidance-mitigate-chemical-accidents.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.