

General approach for risk management of carcinogens¹

STOP follows a hierarchy of control. For carcinogens, a step down in the hierarchy is only allowed when technical limitations prevent you from eliminating exposure entirely.

When carcinogens are present at the workplace, employers must do everything in their power to prevent workers from coming into contact with them. Promote a health and safety culture in your workplace!

The first steps when fighting exposure to carcinogens at the workplace should always include:

- Keep in mind that minimum standards for work organisation and safety requirements must be in place at all times. However, these may not be sufficient and further measures might be necessary.
- List all carcinogens used and their quantities
- Gather their safety data sheets.
- Describe the tasks where they are used, making sure to consider all potential process generated carcinogens.
- Identify workers that are potentially subject to exposure and for how long.
- Consider all the above when preparing your workplace risk assessment.

When providing instructions to your workers remember to:

- Always use simple and clear language, short and straight to the point sentences.
- Aim for a clean design in written instructions.
- Include illustrations/schemes when possible.

¹ In accordance with the definition of "carcinogen" in Article 2 a) of the CMR Directive.

Disclaimer: This document is intended to support employers in their decision-making process and does not replace or exclude the need to perform an adequate risk assessment. Please always consider your national health and safety legislation.



More information on www.stopcarcinogensatwork.eu

- Find facts on carcinogens
- Learn about occupational risks
- Find good practices and measures to reduce risks

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S.T.O.P. principle what you need to consider regarding

Technical measures



S.T.O.P. CARCINOGENS AT WORK

This document intends to provide information to support employers in their decision-making process, using the STOP principle. The STOP principle describes the order of priority of protective measures. The employer must observe this order of priority when determining and applying protective measures. **Here we will focus on the second level, T for technical measures.** A document for each of the other types of measures is also available.

Please consider S before T. Also note that a combination of measures can be used.

The individual letters S-T-O-P stand for different types of protective measures:

S ... Substitution – replace dangerous substances with less dangerous substances or processes. Substitution is always the first measure to consider.

T ... Technical measures – from closed systems to effective air suction, many techniques help to reduce the exposure towards carcinogens dramatically

O ... Organisational measures – may consist of internal policies and/or organisational methods. These measures should only be used to provide additional protection. They should also be considered for emergencies and for workers who carry out regular cleaning and maintenance work.

P ... Personal Protection – sometimes substitution is not possible and technical and organisational measures are not enough. Then you need to use personal protection.

It's easy to remember: S.T.O.P. keeps you safe!



T ... Technical measures

Technical measures include mechanical devices or processes that eliminate or minimise the exposure to carcinogens. These technical measures might involve enclosure, use of ventilation and/or automation of processes.

What should be considered when assessing the measure(s) to implement:

- Identify all technical solutions (e. g. encapsulation or ventilation) already in place and assess their efficiency/efficacy (include maintenance plans).
- If needed, consider other technical solutions available that might improve the control: obtain a description of the solution, its suitability efficacy and efficiency.
- Consider the possible combined effect of the technical solutions.
- Make sure to ask the equipment provider for the user manual (in your language).
- Make sure your workers (including cleaning and maintenance workers) are given adequate training on the technical measures in place.
- Provide clear instructions to workers on how to use those technical measures in place properly: with illustrations, if possible.

Some technical measures to consider

When determining and applying the best technical measures, always remember to take in consideration the specificities of the workplace (e.g. premises with permanent ventilation equipment, open-air installations).

A variety of technical measures are available and can be applied depending on the conditions of the workplace. This document provides a broad range of examples, keeping in mind that other possible solutions could be available.

Closed systems

Closed systems are a very effective technical protective measure. Closed systems may include encapsulation, integrated extraction systems as an integral technical part of the work equipment or highly effective extraction systems.

Containment

Partially enclosed systems offer access to the process but at the same time prevent the release of a carcinogen or minimise exposure. These systems are usually combined with extraction ventilation systems or airflow systems, e.g. ventilated workbench, fume cupboard.

Ventilation

Assess the efficacy of any ventilation system you might already have in place and the feasibility of the workplace structure for the implementation of a new ventilation system. In finding effective and efficient ventilation, the below possibilities might be used either individually or combined:

- Natural Dilution Ventilation
- Mechanical Dilution Ventilation
- Mechanical Exhaust Ventilation

Contact suppliers to provide technical specifications of different ventilation systems.

Using different work methods

Changing working methods could also be a possibility to reduce work exposure, for example, through liquid splashes or dust formation. A variety of alternative methods can be considered, such as pumping rather than pouring, vacuuming, or wetting systems instead of sweeping.

Using carcinogens in a different form

The physical form of the carcinogen might also be taken under consideration when deciding on the technical measures to implement. Powders are more prone to higher exposure levels, thus a compressed form (like a pellet or a tablet) or a gel might lower the worker's exposure. Assess the possibility to use the carcinogen in a form that might lead to less exposure.

The way the carcinogen is packed may have an influence on exposure levels. For example, using soluble packaging or reducing its size might reduce exposure.