

Isocyanates and Filtering devices

Isocyanates

Used for applications such as hardener in polyurethane (PU). Exposure to isocyanates may occur, for instance, during work with adhesives, paints and sealants that are based on polyurethane. Isocyanates emit vapours when heated, such as during welding and grinding of painted car body sheet steel.

Problem

Inhalation of isocyanates, even at very low concentrations, may give rise to respiratory tract ailments that are similar to asthma. Exposure to isocyanates cannot be determined by a person's sense of smell, since the limit detectable by the sense of smell is far below the hygienic limit value (HLV).

Swedish Work Environment Authority

The Swedish Work Environment Authority is behind a study carried out to determine whether gas filters can be used as protection against isocyanates. The charcoal grades studied were found to be well suited for this purpose. The gas filter should be combined with particle filter P3 and used together with a full-face mask or fan-assisted equipment.

Sundström Safety AB recommends

On the basis of the results obtained from the Work Environment Authority study, Sundström Safety AB recommends the filtering devices listed below for work in which isocyanates occur. Note that the time during which the protections may be used is limited.

1. Full-face mask SR 200 with gas filter SR 315 (ABE1) or SR 297 (ABEK1) + SR 510 (P3). Up to 40 h/1 week.
2. Full-face mask SR 200 with gas filter SR 294 (ABE2) + SR 510 (P3). Up to 80 h/2 weeks.
3. Fan SR 500* with gas filter SR 515 (ABE1) + SR 510 (P3). Up to 16 h/2 days **.

* SR 500 can be combined with the following face parts:

- Full-face mask SR 200, class TM3.
- Hood SR 520, class TH3
- Hood SR 530, class TH3
- Face shield SR 540, class TH3.

** The high, constant rate of flow delivered by the fan limits the time during which the equipment may be used.



**Protection factor 500.
Up to 40 hours.**