

Restriction of diisocyanates

Overview

Diisocyanates are considered respiratory and skin sensitisers. They are a family of chemical building blocks used in the manufacture of a variety of polyurethane products used in a wide range of sectors and applications, in particular in foams, sealants and coatings.

A restriction was published in the Annex XVII of the REACH Regulation (EC Regulation 1907/2006) which aims to limit the use of diisocyanates in industrial and professional applications to those cases where a combination of technical and organisational measures are implemented, and a minimum standardised training course has been followed. It is the responsibility of the operators placing these substances and mixtures on the market to ensure that training courses are available to the recipients of such substances or mixtures.

Restrictions

Diisocyanates shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:

- the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
- the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

In addition, diisocyanates shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:

- the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
- the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: “As from 24 August 2023 adequate training is required before industrial or professional use”.

The training referred to above shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training.

General training requirements to handle diisocyanates

General training, including online training, shall cover the minimum training elements listed below for all industrial and professional use(s):

- Chemistry of diisocyanates;
- Toxicity hazards (including acute toxicity);
- Exposure to diisocyanates;
- Occupational exposure limit values;
- How sensitisation can develop;
- Odour as indication of hazard;
- Importance of volatility for risk;
- Viscosity, temperature, and molecular weight of diisocyanates;
- Personal hygiene;
- Personal protective equipment needed, including practical instructions for its correct use and its limitations;
- Risk of dermal contact and inhalation exposure;
- Risk in relation to application process used;
- Skin and inhalation protection scheme;
- Ventilation;
- Cleaning, leakages, maintenance;
- Discarding empty packaging;
- Protection of bystanders;
- Identification of critical handling stages;
- Specific national code systems (if applicable);
- Behaviour based safety;
- Certification or documented proof that training has been successfully completed.

Intermediate training requirements

Further training (intermediate training) to the above (“General training requirements to handle diisocyanates”) is required when diisocyanates are being used in the following applications:

- Handling open mixtures at ambient temperature (including foam tunnels)
Spraying in a ventilated booth
- Application by roller
- Application by brush
- Application by dipping and pouring
- Mechanical post treatment (e.g., cutting) of not fully cured articles which are not warm anymore; — cleaning and waste



- Any other uses with similar exposure through the dermal and/or inhalation route;

Such intermediate training, including online training, shall cover the minimum training elements listed below:

- Additional behaviour-based aspects; Maintenance;
- Management of change;
- Evaluation of existing safety instructions;

Advanced training

In addition, further training (advanced training) to the above (“General training requirements to handle diisocyanates” and “Intermediate training requirements”) is required when diisocyanates are being used in the following applications:

- Handling incompletely cured articles (e.g., freshly cured, still warm)
- Foundry applications
- Maintenance and repair that needs access to equipment
- Open handling of warm or hot formulations (> 45 °C)
- Spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g., foams, elastomers)
- And any other uses with similar exposure through the dermal and/or inhalation route.

Such advanced training, including online training, shall cover the minimum training elements listed below:

- Any additional certification needed for the specific uses covered;
- Spraying outside a spraying booth;
- Open handling of hot or warm formulations (> 45 °C);

It is important to note that the employer or self-employed shall document the successful completion of the training referred to above. The training shall be renewed at least every five years.