

Epoxy Resins

Information Sheet

November 2010

Epoxy resins consist of a broad family of chemicals that are used in a range of different industrial areas, in adhesives, painters (paints, coatings, sealants) printing (inks, varnishes), electronics and construction, the manufacture of reinforced polymer composite structures with glass fibre, carbon fibre or metal substrates and in production of protective coatings of canned food.



Routes of Exposure

Skin contact is the main route of exposure, through splashes onto the skin, immersion of hands/arms in the substance or contact with contaminated surfaces.

Exposure through inhalation is unlikely due to the low volatility of many epoxy resin compounds, however dusts/sprays generated may act as sensitizers or respiratory irritants depending on the process, e.g. acid anhydride curing agents.

Health Effects

There are several potential health effects associated with exposure to epoxy resin compounds. Some examples are provided below:

- Skin contact can result in contact dermatitis, through irritation or sensitisation (allergic) effects. Photodermatitis (light responsive dermatitis) to epoxy resins can also occur.
- Dusts/sprays generated during a process using epoxy resins may act as sensitizers or respiratory irritants.

Recommended Control Measures

It is the employer's responsibility to assess the risks and level of protection necessary in the workplace. Various different levels of protection may be required depending on the scenario. The following precautions could be taken:

- Prevent exposure through elimination of the substance or substitution with a less hazardous substance.
- Follow the advice given on the labels and in the Safety Data Sheet (SDS) of substance(s).
- Introduce engineering controls/closed systems/automation to reduce exposure.
- Wear appropriate personal protective equipment such as gloves and/or goggles to reduce exposure to epoxy compounds and the risk of sensitisation.

Health Advice

There are preventative measures that can be taken by the employer and the employee such as:

- It is important to seek medical advice if there are persistent symptoms and report these to your employer.
- Making skin checks available for symptoms of dermatitis, these can be carried out by an appropriately trained person.

Key Points

Always assume that exposure is likely to occur and protect according to the level of risk identified from risk assessment.

- ✓ Investigate the possibility of substituting harmful substances for less harmful alternatives.
- ✓ Ensure Risk Assessments are carried out and the controls / recommendations identified are implemented.
- ✓ Use safe systems of work to reduce exposure.
- ✓ Use and store personal protective equipment according to instructions to reduce exposure.

- ✓ Follow advice given on labels and in the SDS of the substance(s).

Further information:

- The Health and Safety Authority's website **www.hsa.ie** (search for chemical agents).
- Contact the Health and Safety Authority at **wcu@hsa.ie** or LoCall **1890 289 389**.

