

Health Hazard Information of Isocyanate Monomers

It is crucial to understand the regulatory framework, health risks, and safe practices associated with these materials.

The health hazards associated with these polymers depend on whether they contain free isocyanate groups. However, polymers with free isocyanate groups can lead to various health effects, including:

- **Respiratory Sensitization:** This is the critical health effect, which can cause sensitization through inhalation and skin contact.
- **Systemic Acute Effects:** Acute toxicity via inhalation is possible.
- **Local Effects:** Skin sensitization and respiratory irritation can occur.
- **Skin and Eye Irritation:** Polymers may also cause irritation to the skin and eyes.

It is essential to understand and follow proper safety measures and regulations when working with these materials to minimize health risks and ensure safe usage. For detailed information, you can visit the [National Industrial Chemicals Notification and Assessment Scheme \(NICNAS\) website](#) for more resources and guidance.

- **Commercial Use:**
 - in automotive refinishing
 - in adhesive and binding agents
 - in plastics manufacture
 - as polyurethane pre-polymers.

Existing Work Health and Safety Controls

- **Hazard Classification:** These chemicals are not listed on the Hazardous Chemical Information System (HCIS).
- **Exposure Standards in Australia:** There are no Australian exposure standards for individual polyurethanes in this group. Safe Work Australia has established exposure standards of 0.02 mg/m³ time-weighted average (TWA) and 0.07 mg/m³ short-term exposure limit (STEL) for polymers containing free isocyanate groups.
- **International Exposure Standards:** There are no international exposure standards for individual polyurethanes in this group.
- **Restrictions**

In Australia, some restrictions apply to polymers containing free isocyanate groups. These restrictions are listed under the 'Isocyanates' entry in the Poisons Standard. These chemicals are considered Schedule 6 poisons, which means they have a moderate potential for harm and require distinctive packaging with warnings and safety instructions.