

Ansell Latex Rubber Gloves Chemical Accelerators

What are accelerators?

Accelerators are chemicals that increase the binding speed between sulphur and the glove material. Sulphur is used to create bonding of the glove material into a 'matrix/lattice' structure, allowing the material to stretch and recoil. This allows for faster and consistent quality of manufacture. There are three main classes of chemical accelerators, Thiurams, Dithiocarbamates and Mercaptobenzothiazoles.

Accelerators are chemicals used in the manufacture of gloves that:

- provide elasticity (stretch) to the glove;
- allow cross-linking of the glove material to give strength to the glove;
- give integrity to the latex during use; and
- stabilise the latex for long term storage.

Some residual accelerators can cause skin irritation which can lead to:

- itching;
- redness; and
- contact dermatitis.

Ansell takes additional steps in the manufacture of gloves to ensure provision of the highest standard of protection, comfort and ease of use.

Thiurams

Thiurams are most commonly regarded as a cause of delayed allergic contact dermatitis. Thiurams decompose during vulcanisation (heat treatment) liberating the sulfur and carbamates.

Mercaptobenzothiazoles (MBT)

Research has shown that MBTs were originally thought to act as significant sensitisers (chemical agents causing increased sensitive reactions).

However, the incidence of sensitisation to this group of compounds is lower than other accelerator compounds. Importantly, MBTs react well with zinc which assist in the sulphur bonds adding tensile strength to the glove.

Dithiocarbamates

Dithiocarbamates absorb sulfur and carry it into the glove material to facilitate cross linking and curing. Dithiocarbamates are even less sensitising than Thiurams and MBTs. There are more than 34 types of these compounds. They often contain zinc, which is important to the solubility of the accelerator in natural rubber latex and its (the latex's) ability to react with sulfur.

PV100

Ansell has pioneered the use of the unique accelerator PV100, which breaks down to N₂, CO₂, and H₂O during processing, leaving non detectable residue and thus reducing the risk of contact dermatitis.

Antioxidants

Antioxidants are chemicals used to prevent oxidation (degradation) of rubber products. Environmental factors such as heat, ultra violet light, ozone, humidity and chemicals impact the storage and shelf life of natural rubber latex. Antioxidants assist in the storage stability of gloves.

For further information on chemical accelerators in our gloves please ask for copies of our detailed Technical datasheets, or visit www.anselleurope.com.