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European Organic Peroxide Safety Group

Statement on testing pure and diluted organic peroxides

To whom it may concern.

For registration purposes usually a substance in its pure form has to be tested. For Organic Peroxides, this is not always possible due to the hazard characteristics of this type of chemical.

Organic Peroxides have an -O-O- bond in their chemical structure. The chemical will generate O-radicals at elevated temperatures or when accelerated by an accelerator. The radicals are used for the initiation of a polymerization reaction of a monomer or, in other applications, to initiate a crosslinking reaction.

The decomposition of an Organic Peroxide is exothermic and in its pure form, the effect of such a decomposition can be very mild but also very violent (explosive).

Hazard ranking, Type A (explosive) - Type G (no effect when decomposed) classification, is based on the United Nations transport & GHS classification principles.

A number of Organic Peroxides, depending on their chemical structure, and so-called active oxygen content, have to be diluted in a solvent to be handled safely. They simply cannot be handled in their pure form as they will give rise to explosions.

For Type A Organic Peroxides (e.g. even forbidden to be transported), solvents are used to make these products safe for handling. These are part of the products tested in a solvent.

Also in the application in polymerization reactions, such Organic Peroxides have to be handled/dosed in the solvent. For registration purposes & testing, these products are tested in a safe formulation in a solvent.

Other Organic Peroxides can be handled in their pure form.

Sincerely yours,

EOPSG

European Organic Peroxide Safety Group

A Sector Group of Cefic

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