

Technical Bulletin

Safety aspects in homogenizing crystallized peroxides

Introduction

This technical safety bulletin concerns products containing acetyl acetone peroxide, like:

Trigonox[®] 44B, Trigonox 44B VRE, Trigonox 44B VRN
Trigonox 51, Trigonox 61, Trigonox 63, Trigonox 65
Trigonox 44-K75
Trigonox 269, Trigonox 279
Trigonox 524



All above are organic peroxide formulations containing acetyl acetone peroxide. They are all liquid at room temperature, but in winter time crystals may be formed in these products in case no special precautionary measures are taken. This can occur at temperatures below -10°C , although in theory crystals could also be formed at temperatures between $+10^{\circ}\text{C}$ and -10°C , but this is very unlikely.

The formed crystals are wetted acetyl acetone peroxide and they must not be isolated, e.g. by filtration. In isolated form these crystals can be dangerous.

Once these products show crystallization, the following recommendations should be followed to dissolve the crystals and to homogenize the product in a safe and controlled way.

Store the containers with the crystallized product in a suitable room at $20\text{-}25^{\circ}\text{C}$ and shake them frequently. The temperature of the room should not exceed 25°C . In general, dissolving of the crystals will take 24 to 72 hours.

Alternatively, the containers can be placed in a water bath at 25°C maximum. They also should be shaken frequently. In this way dissolving of the crystals will take only a few hours.

Once homogenized, place the container in a room between 10 and 25°C.

When the process of dissolving the crystals and homogenizing the product is carried out in a correct way, the quality of the product will not be affected.

At all times excessive heating (e.g. by using steam or a heat gun) to dissolve the crystals should be avoided, otherwise uncontrolled decomposition may occur.

Acetyl acetone peroxide crystals dissolve very well in water. So, in case crystals are found in for instance process equipment, they should be dissolved with water and disposed.

Please follow the recommendations as given in the SDS of the product concerned, which can be found on <https://polymerchemistry.nouryon.com/downloads/msds-search/>

For more information please contact your local Nouryon representative.

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