



Safety aspects in melting frozen organic peroxides

Organic peroxides can be either liquids or solids. Some of the liquid organic peroxides have a relatively high solidification point (freezing point). This implies that e.g. in winter time these peroxides may solidify at ambient temperatures in case no special precautionary measures are taken.

Once a liquid organic peroxide has solidified, it may take a relatively long time to bring it back in its liquid state again when all safety aspects are taken into account.

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Quality of products

Solidification and subsequent liquification of below mentioned organic peroxide, when carried out in a correct way, will not adversely affect the quality.

Organic peroxides showing easy 'freezing' properties

In the table below, products are listed that may solidify at lower ambient temperatures.

Organic peroxide	Concentration (%)	SADT ¹⁾ (°C)	Recommended maximum storage temperature (°C)	Temperature at and below which freezing can occur (°C)
Trigonox® 311	> 96	120	40	< 15
Trigonox T	> 94	80	40	< 16
Trigonox 101	> 92	80	40	< 10
Trigonox C	> 98	60	25	< 10
Trigonox C-C75	75	60	25	< 0

¹⁾ SADT = the Self Accelerating Decomposition Temperature; is the lowest ambient temperature at and above which a thermal decomposition of the product will occur (i.e. critical temperature).

Safety aspects to be considered in melting frozen organic peroxides

Organic peroxides are thermally unstable molecules at and above their SADT. This implies that excessive heating should be avoided at all times, since otherwise decomposition will occur.

The following recommendations are given for melting the organic peroxides, listed in the table, in a safe and controlled way:

- Store the containers or drums with the frozen organic peroxide in a suitable room above the melting temperature, and shake them frequently if possible. As a rule of thumb, a room temperature of 20-25°C is appropriate. The temperature of the room should not exceed 30°C. In general, the melting will take 24 to 72 hours.
- Place the containers or drums in a water bath at 30°C maximum and shake them frequently if possible. In this way the melting will take a few hours, depending on the size of the container.
- Once melted, place the container in a room at 20°C.

Please note: the direct contact with hot objects or the use of steam should be avoided in all cases.

Please follow the recommendations as given in the corresponding SDS of the product concerned, which can be found on our website.

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