



AkzoNobel



Trigonox[®] 421

Driving a
sustainable future

As a company of innovation we have a stream of new, high-value products and technologies, including Trigonox 421, our latest generation of organic peroxides for acrylic polymerization and polymer polyols production.

Trigonox 421 is an eco-premium alternative to commonly used azo initiators.

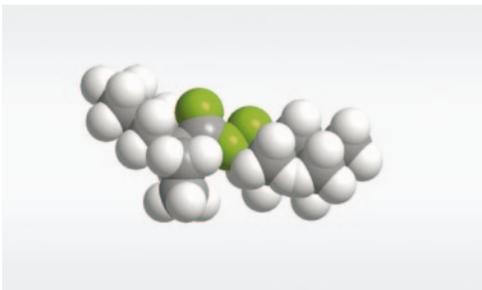
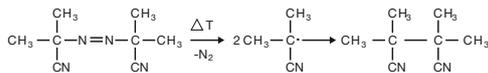
- TMSN free
- No toxic decomposition products
- Drop-in replacement for AIBN
- Easy to dose liquid

www.akzonobel.com/polymer

Making TMSN history

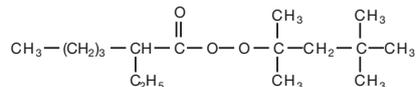
AIBN [2,2'-Azodi(isobutyronitrile)] is used in many polymerization processes. Upon decomposition the toxic tetramethylsuccinonitrile (TMSN) is formed. In answer to this problem AkzoNobel has developed Trigonox 421, making TMSN history.

On a yearly basis some 4,000 tons of TMSN are produced through the decomposition of AIBN:



Azo initiators and more specifically AIBN is used for its unique properties. Upon decomposition it generates 100% selective C-centered radicals. Compared to aggressive, O-centered radicals, that are generally formed by organic peroxides, these C-centered radicals allow for much better molecular weight control. This is mainly caused by the lower level of branching generated. This is specifically important for applications as high solid acrylic resins and polymer polyols.

Contrary to AIBN 1,1,3,3-tetramethylbutyl peroxy-2-ethylhexanoate (Trigonox 421) does not generate toxic by-products:



Unlike most other peroxides Trigonox 421, upon decomposition, almost exclusively generates selective C-radicals. It is therefore, just like AIBN, specially suitable for those applications where control of branching and molecular weight is important.

Meanwhile Trigonox 421 has replaced AIBN already in many commercial applications, proving the above concept in practice.

Another benefit of Trigonox 421 is that it is liquid. It is, therefore, much easier to dose in industrial batch- and continuous processes.

In summary:

- Trigonox 421 is a drop-in replacement for AIBN
- Trigonox 421 generates no toxic decomposition products
- Trigonox 421 is liquid, therefore easy to dose

For product inquiry and ordering information, please contact your AkzoNobel account manager or

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