DTBP S-500
Di(tert.-butyl)peroxide
CAS#110-05-4
Liquid, techn. pure
Molar mass: 146.2 g/mol

Structural Formula

\[
\begin{array}{c}
\text{CH}_3 \\
\text{H}_3\text{C} - \text{C} - \text{O} - \text{O} - \text{C} - \text{CH}_3 \\
\text{CH}_3 \\
\text{CH}_3
\end{array}
\]

Description
Colourless, mobile liquid, consisting of technically pure Di(tert.butyl) peroxide. This highly volatile dialkyl peroxide is used as an initiator (radical source) in the polymerisation of monomers and crosslinking of polyethylene.
In contradiction to standard DTBP this new version DTBP S-500 is highly conductive and thus decreasing the risk for electrostatic discharge significantly.

Technical Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>colourless liquid</td>
</tr>
<tr>
<td>Purity (GC)</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>Active oxygen (calculated)</td>
<td>&gt; 10.8%</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>approx. 0.79 g/cm³</td>
</tr>
<tr>
<td>Viscosity at 20 °C</td>
<td>approx. 0.8 mPas</td>
</tr>
<tr>
<td>Refractive index at 20 °C</td>
<td>approx. 1.389</td>
</tr>
<tr>
<td>Conductivity</td>
<td>min. 1000 pS/m</td>
</tr>
<tr>
<td>Miscibility</td>
<td>immiscible with water, miscible with organic solvents</td>
</tr>
<tr>
<td>Vapour pressure at 20/40/110 °C</td>
<td>25/75/1000 mbar</td>
</tr>
<tr>
<td>Critical temperature (SADT)</td>
<td>above 80 °C</td>
</tr>
<tr>
<td>Cold storage stability</td>
<td>liquid to below -25 °C</td>
</tr>
<tr>
<td>Recommended storage temperature</td>
<td>below 40 °C</td>
</tr>
<tr>
<td>Storage stability as from date of delivery</td>
<td>12 months</td>
</tr>
</tbody>
</table>

This product is in compliance with the ElektroG (E U-Directives: RoHS 2002/95/EG, WEEE 2002/96/EG)

Half-life-time
10 h/1 h/1 min (0.1 m/benzene): 125/146/190 °C
Technical Data Sheet

Application

ETHYLENE:
Initiator for high-pressure polymerisation in combination with other peroxides of varying degrees of activity.
Temperature range: 220-280 °C.
Particular advantage: liquid even at low temperatures and under high pressure; high conversion rate.

(METH)ACRYLATES:
Initiator for the polymerisation of (meth-)acrylates, possibly in combination with more active peroxides, e.g. tert.Butylperoxy-2-ethylhexanoate (TBPEH).
Temperature range: 120-180 °C. Usage level: 0.05-0.1 % as supplied.

STYRENE:
Initiator for the polymerisation of styrene in mass or solvent.
Temperature range: 140 °C-180 °C. Usage level: 0.02-0.1% as supplied.
Particular advantage: reduction of residual monomer content, possibly in combination with more active peroxides.

GRAFT POLYMERISATION:
Standard initiator for the styrenisation of alkyd resins. Temperature range: 140 °C-160 °C. Usage level: 0.5-2% as supplied. Styrene is grafted onto the unsaturated chain of alkyd resin, and the properties of paint raw materials may be improved.

Further information on organic peroxides for polymerisation of monomers is given in our application brochures on this subject.

Standard Packaging

20kg in HDPE canister

Disclaimer

This information and all further technical advice are reflecting our present knowledge and experience based on internal tests with local raw materials with the purpose to inform about our products and applications. The information should not be construed as guaranteeing specific properties of products described or their suitability for a particular application, nor as providing complete instructions for use. The information implies no guarantee for product and shelf life properties, nor any liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. We reserve the right to make any changes according to technological progress or further developments.

Application and usage of our products based on our technical advice is out of our control and sole responsibility of the user. The user is not released from the obligation to conduct careful inspection and testing of incoming goods in order to verify the suitability for the intended application.

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