COB 4-TX
Cobalt octoate
CAS#136-52-7
Solution in plasticiser

Description
Violet coloured liquid, consisting of cobalt octoate with a cobalt content of 4% w/w diluted with TXIB. In combination with ketone peroxides, hydroperoxides or peresters these products are used as accelerators for the curing of unsaturated polyester resins.

Technical Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Violet coloured mobile liquid</td>
</tr>
<tr>
<td>Cobalt content</td>
<td>Approx. 4 % w/w</td>
</tr>
<tr>
<td>De-sensitising agent</td>
<td>Aliphatic ester</td>
</tr>
<tr>
<td>Density at 20°C</td>
<td>Approx. 0.970 g/cm³</td>
</tr>
<tr>
<td>Flash point (closed cup pensky martens)</td>
<td>Above 86°C</td>
</tr>
<tr>
<td>Miscibility</td>
<td>Miscible with UP resin, styrene, etc., immiscible with water</td>
</tr>
<tr>
<td>Recommended storage temperature</td>
<td>Max. +30°C</td>
</tr>
<tr>
<td>Storage stability as from date of delivery</td>
<td>6 months</td>
</tr>
</tbody>
</table>

Application
Accelerators in combination with ketone peroxides for curing at ambient temperature or at elevated temperatures together with peresters or hydroperoxides. Suitable in particular for resin types based on ortho- or isophthalic acid. Usage level: 0.2-4% COB 4-TX and 1-3% peroxide in the supply form, possibly 0.1-0.8% INHIBITOR TC 510. "Shelf-life" (gel time of resin + accelerator) up to several months depending on temperature and resin type but with considerable loss of activity. "Pot-life" (gel time of resin + accelerator + peroxide) variable from some minutes up to some hours depending on the quantity of ketone peroxide and inhibitor or up to several days depending on peroxide type (e.g. perester). Moderate development of heat, relatively long mould release times i.e. moderate mould release factor except in combination with acetyl acetone peroxide. With special peroxide mixtures a moderate peak exotherm, little internal stress and relatively short mould release times can be achieved, even in thick laminates. Reasonable accelerating effect up to about 100°C as well as down to about 20°C. A good degree of cure can be achieved particularly with adequate post-curing. The reddish or greenish discoloration of the finished parts remains within bounds even with weather ageing. In particular hand lay-up, spray lay-up, injection moulding, rotational moulding, casting and coating. Versatile and flexible by using various curing agents e.g. all types of ketone peroxides or certain peresters and hydroperoxides.
Measurements

Influence of peroxide type on cure times: “Cold curing” of 2 mm thick GRP laminates at 23°C. Formulation in parts by weight.

<table>
<thead>
<tr>
<th>Highly reactive OPS-resin</th>
<th>100</th>
<th>100</th>
<th>100</th>
<th>100</th>
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<tbody>
<tr>
<td>COB 4-TX</td>
<td>0.125</td>
<td>0.125</td>
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<td>0.125</td>
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<tr>
<td>CUROX®M-302</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CUROX®M-102</td>
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<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>CUROX®A-300</td>
<td>-</td>
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</tr>
<tr>
<td>CUROX®A-140</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Cure times (min.) at 23°C

| Gel time (t gel) | 6 | 25 | 12 | 20 |
| Mould release time (t E) | 45 | 140 | 22 | 110 |
| Mould release factor (t E/t gel) | 7.5 | 5.6 | 1.8 | 5.5 |

Influence of temperature and peroxide type on cure times: “Cold curing” of 2 mm thick GF/UP laminates at 23°C. Formulation in parts by weight.

<table>
<thead>
<tr>
<th>Medium reactive VE-resin</th>
<th>100</th>
<th>100</th>
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<th>100</th>
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</thead>
<tbody>
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<td>COB 4-TX</td>
<td>0.5</td>
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<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>CUROX®M-102</td>
<td>2</td>
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<td>-</td>
</tr>
<tr>
<td>TBPB-HA-M1</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Cure times (min.) at 23°C

| Gel time (t gel) | 10 | 40 | 15 | 60 |
| Mould release time (t E) | 70 | 220 | 85 | 200 |
| Mould release factor (t E/t gel) | 7.0 | 5.5 | 5.7 | 3.3 |

Standard Packaging

Standard Packaging for the COB 4-TX is 25 Kg.

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.

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