

**BAM****Bundesanstalt für
Materialforschung
und -prüfung**

□BAM - Federal Institute for Materials Research and Testing - D-12200 Berlin

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**Resistance of the PTFE (polytetrafluoroethylene) sealing material
KLINGER®top-chem2003, KLINGER®top-chem2005 and
KLINGER®top-chem2006 to propylene oxide and mixtures of
propylene oxide and ethylene oxide (Antrags-Nr.: III.2/3567)**

Dear Mr Heintschel,

modified PTFE (polytetrafluoroethylene) sealing materials with different fillers, such as KLINGER®top-chem2003, KLINGER®top-chem2005 and KLINGER®top-chem2006, are evaluated as completely resistant to the long-term influence of propylene oxide and mixtures of propylene oxide and ethylene oxide, even at temperatures over 50°C. These positive evaluation is listed in the database dangerous goods of the BAM and in the 7th edition of the BAM-list – Requirements for Tanks for the Transport of Dangerous Goods – too. These evaluations are based on laboratory tests, operational experiences and data in the technical literature.

The strength of the fluorocarbon bonding as well as the nearly complete screening of the carbon chains by fluoro atoms lead to a almost universal chemical resistance of PTFE. In comparison to other polymeric materials PTFE does not require performance additives in form of stabilizers of any kind. A deviant behaviour show additives, such as silicone filling materials and barium sulphate which are added to PTFE. These filling materials give the plastic moldings produced of them special properties and have no negative effect on the chemical resistance of PTFE in no case.

with kind regards

Section III.23
Transport Technology; Transport Tanks

By order of

Dipl. Chem. M. Weltschev
Oberregierungsrätin

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18.10.04

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