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## Certificate

The biopersistence of fibres was investigated after intratracheal installation within the following study:

Fraunhofer ITEM study no.: 02G09017  
Test substance: ODE STARFLEX  
Sponsor: ODE Yalitim Sanayi ve Ticaret A.S., Istanbul, Tyrkey  
Title: Biopersistence of Man-Made Vitreous Fibre (MMVF) ODE STARFLEX in Rats after Intratracheal Instillation

This animal study was conducted in compliance with the Principles of Good Laboratory Practice (German Chemicals Law, §19a Appendix 1, July 02, 2008). The protocol of the European Commission (ECB/TM 27 Rev. 7, 1998) with slight changes according study protocol was followed.

The treatment of rats was performed in December 2009 by intratracheal instillation of a total dose of 2 mg per rat. The fibre retention data of sacrifice dates up to 3 months after instillation were used for analysis.

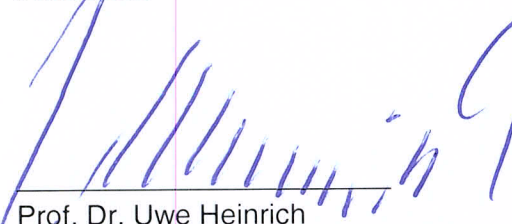
**Following halftimes were calculated by the method according to the protocol of the European Commission:**

**WHO fibre fraction ( $L > 5 \mu\text{m}$ ,  $D < 3 \mu\text{m}$ ,  $L/D > 3/1$ ):  $\leq 40$  days**


According to Appendix IV Nr.22 of the German Gefahrstoffverordnung (Dangerous Substances Act, Revision date October 12, 2007) for using MMVF for heat and sound insulation in building construction in Germany the half-time of the WHO fibre fraction should be less or equal to 40 days.

**Long fibres fraction (length  $> 20 \mu\text{m}$ ):  $< 40$  days**

According to Directive 67/548/EEC (revised by guideline 97/69/EG of the Commission dated December 5<sup>th</sup>, 1997) Note Q, the classification as a carcinogen need not apply if the halftime for fibres longer than  $20 \mu\text{m}$  is less than 40 days in the biopersistence test by intratracheal instillation.



Prof. Dr. Uwe Heinrich  
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Dr. Bernd Bellmann  
Study director