



Fraunhofer Institut
Toxikologie und
Experimentelle Medizin

Director
Prof. Dr. Uwe Heinrich

Nikolai-Fuchs-Straße 1
D-30625 Hannover

Phone +49 (0) 5 11/53 50-0
Fax +49 (0) 5 11/53 50-155

Dr. Bernd Bellmann
Phone: +49 (0) 511/53 50-452
Email: bellmann@item.fraunhofer.de

Hannover,
May 19, 2003

Certificate

The biopersistence of the fibre type GEOLAN Steinwolle was investigated after intratracheal installation within the following study:

Fraunhofer ITEM study no.: 02G03002

Test substance: GEOLAN Steinwolle

Sponsor: Fibran S.A., Thessaloniki, Greece

Title: Biopersistence of the Man-Made Vitreous Fibre GEOLAN Steinwolle 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 pp. 2119-2129, June 28, 2002). 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 January 2003 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.

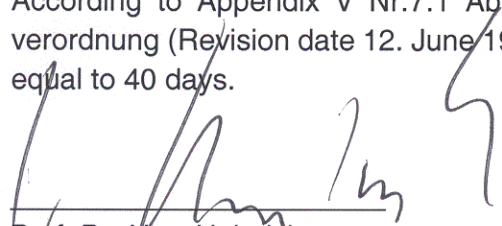
Following halftimes were calculated by the method according to the protocol of the European Commission:


Long fibres fraction (length > 20 µm): < 40 Days

According to Directive 67/548/EEC (revised by guideline 97/69/EG of the Commission dated 5. December.1997) Note Q the classification as carcinogenic material is not applicable for mineral wools if the halftime for fibres longer than 20 µm is less than 40 days in the biopersistence test by intratracheal instillation.

WHO fibre fraction (L>5 µm, D<3µm, L/D>3/1): < 40 Days

According to Appendix V Nr.7.1 Abs. 1 Satz 2 Kriterium 2 of the German Gefahrstoffverordnung (Revision date 12. June 1998) the halftime for WHO fibres should be less than or equal to 40 days.


Prof. Dr. Uwe Heinrich
Managing director of Fraunhofer ITEM


Dr. Bernd Bellmann
Study director