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Certificate

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

Fraunhofer ITEM study no.: 02G99003C

Test substance: Superwool Plus (code name fibre 3)

Sponsor: European Ceramic Fibres Industry Association

Title: The biopersistence of high temperature insulation fibre 3 (CMS) 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. 1724-1732, July 25, 1994, amended on May 14, 1997). 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 1999 by intratracheal instillation of a total dose of 2 mg per rat. The fibre retention data up to sacrifice date 3 months after instillation were used for analysis.

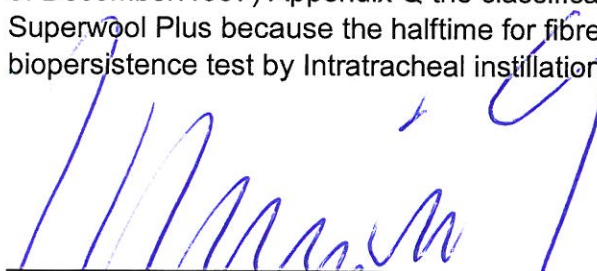
Following halftimes were calculated by the method according to the protocol of the European Commission:

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


In Germany, Man-Made Vitreous (Silicate) Fibres for high temperature applications (classification temperature > 1000°C) with more than 18% of sodium, potassium, calcium, magnesium and barium oxides do not fall under the production and use ban regulation (Appendix IV n° 22 of the German Dangerous Substances Act and Appendix to § 1 section 23 of the German Chemical Ban Regulation) if the WHO fibres halftime is less or equal to 65 days.

Long fibres fraction (length > 20 µm, L/D>3/1): < 40 Days

According to Guideline 67/548/EWG (revised by guideline 97/69/EC of the Commission dated 5. December.1997) Appendix Q the classification as carcinogenic material is not applicable for Superwool Plus because the halftime for fibres longer than 20 µm is less than 40 days in the biopersistence test by Intratracheal instillation.



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