



ETU-Hallmark Filter sand

Eijkelkamp Toxicological Leaching Certificate

Objective

1. To establish, secure and where possible improve the discharge of toxicologically relevant substances by various materials that make contact with groundwater samples.
2. To use inspections and information transfer to provide the client with more certainty about the contamination risk.
3. To provide the purchasing department with an additional selection criterion for evaluating suppliers.

General

The product is subjected twice a year to a strict, selective leaching procedure for establishing the degree of discharge of toxicological substances to water. Usually, at least 5 subsamples are taken for each product from stock. The resulting mix sample is then leached analogously to NEN 7349, with a Liquid/Solid ratio of 20:1 and a shaking time of 23 hours. Use is made of ultra-pure water acidified to pH = 4. The products are not cleaned or flushed before the tests. The leaching bottles and their plugs are made of borosilicate glass. Bottles are filled completely, air bubbles are excluded. All analysis results that are above the detection limit are listed below under "Substances detected". The analysis results are also tested by the pre-determined detection values as stated in the ETU-Hallmark report.

Parameters analyzed

The product is analyzed once a year for:

- Arsenic, cadmium, barium and heavy metals (chromium, copper, mercury, lead, nickel, zinc, selenium and tin)
- Silver extractable organic halogene compounds (EOX)
- Phenol coefficient
- Volatile aromatics (benzene, toluene, ethylbenzene and xylenes)
- Volatile halogenated hydrocarbons
- Volatile and non-volatile chlorinated benzenes
- Mineral oil
- PAH (10 in accordance with VROM (Ministry of Public Housing, Regional Development and the Environment))
- Phthalates

During the second yearly research the product is also analyzed for various relevant parameters based on its recipe and on further measuring results (see the available report for details).

Laboratory

Leaching tests and analyses of these samples were carried out by the accredited laboratory (acc. to NEN-EN-ISO/IEC 17025) of AL-West BV in Deventer. The original analysis list are published on the Eijkelkamp web site or are available from Eijkelkamp on demand.

Substances detected

On 26.10.2012 (batch no.: 1120713) the following substances (above the detection threshold value) were detected:

parameter	emission (discharge)	detection limit (lowest measurable value)
Chromium	5.0 µg/l	2.0 µg/l
Zinc	8.9 µg/l	2.0 µg/l

The concentrations of the substances in the eventually sampled groundwater usually are much lower than in the leaching liquid, since the substances will be highly diluted due to purging of the monitoring well.

Eijkelkamp Agrisearch Equipment declares that this product has been analyzed in accordance with the ETU certificate and satisfies the high quality requirements (see also the remarks).

Remark

Filter sand is playing a main part in the risk of contamination of groundwater (largest mass of exposed surface and exposure time).

Visit our website under [About Eijkelkamp > Quality Assessment](#) for more information on our Quality Control and Quality Assessment system.

All it takes for environmental research

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