Hygiene-Institut des Ruhrgebiets
Institut für Umwelthygiene und Toxikologie
Direktor: Prof. Dr.rer.nat. Lothar Dunemann
Träger: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V.

HYGIENE-INSTITUT · Postfach 10 12 55 · 45812 Gelsenkirchen

Oilex GmbH
Dujardingstraße 7
47829 Krefeld

Besucher-/Paketanschrift:
Rotthauser Str. 21, 45879 Gelsenkirchen

Zentrale	(0209) 9242-0
Durchwahl	(0209) 9242-320
Telefax	(0209) 9242-333
E-Mail	u.tolksdorf@hyg.de
Internet	www.hyg.de

Unser Zeichen:	A-234302-13-To_en
Ansprechpartner:	Ulrich Tolksdorf

Gelsenkirchen, den 11.09.2013

Oil binder "Oilex"
here: Occupational medicine assessment and environmentally technical inspection according to supplement of the oil binder directive from 16 June 1998

Your letter from 23 August 2013, Mr Stefan Brodner

Dear Sir or Madam,

in your above letter, you charged us with the occupational-medicine assessment and environmental-technical inspection and assessment of the oil binder sold by you, called **"Oilex"**.

The assessment to be performed here took place based on the publication of the Federal Minister for the Environment, Nature Protection and Reactor Safety from 12 March 1990 (GMBl no. 18 p. 355 et seqq.), as well as the supplementation of the above publication from 16 June 1998 (GMBl 15 p. 312 and 3213).

Organiser: Verein zur Bekämpfung der Volkskrankheiten im Ruhrkohlengebiet e.V., association register: **VR 519** district court Gelsenkirchen, VAT ID: **DE125018356**
Board: Prof. Dr. Werner Schlake (chairman), Prof. Dr. Jürgen Kretschmann, Dr. Emanuel Grün, Volker Vohmann, Prof. Dr. Lothar Dunemann (managing director)

The latter rule contains that the specialist offices named in the Gemeinsames Ministerialblatt need to verify not only occupational medicine matters but also whether the oil binders on the market are suitable for use from an "environmentally technical" point of view.

The "environmentally technical" suitability test takes place according to the parameter specifications for the deposit classes I and II, as listed in the Annex of the deposit regulation (Deponieverordnung; DepV) from 27 April 2009 (BGBl IS 900). For this, the assignment criteria of deposit class I must be met by oil binders of types I, II and IV, and those of deposit class II of the regulation named for oil binders of type III, in these two cases, a pH value range between 4.0 and 11.0 must be ensured deviatingly.

1. Assessment of the oil binder under occupational medicine aspects

The oil binder to be examined is a natural material made of peat that is to be used to absorb oil. In its concentrated watery sludge (ratio 1 + 2), the oil binder reacts weakly acidically (pH-value = 3.80) and thus is in a range that does not cause irritation at possible skin contact.

Regarding the results of the screen analysis performed (cf. Annex), it must be noted that the oil binder has no increased fine grain share (0.2 %) of < 63 μm, which may cause lung damage due to its respirability.

In light of the granting of the occupational-medicine harmlessness certificate, it must be noted that the tests performed and the information available to us do not give rise to any concerns about use of the oil binder "**Oilex**".

2. Environmentally technical assessment

As the analysis results recorded in a table in the enclosed Annex show in comparison to the limits of the DepV, this product, which was sent to us by the material test office on 28 August 2013, meets the "environmentally technical" requirements to oil binders of types I, II, III and IV. The determined concentration for the content of organic carbon in the eluate is clearly above the indicated limits, but according to the resolution of the work group "Oil and chemicals binders" from 25 June 1999, exceeding of the TOC maximum for binders is to be considered acceptable if they are of natural origin and traded in a chemically unchanged form. Notwithstanding this, it must be considered that the high share of soluble organic carbon of approx. 1.93 g/kg oil binder may cause a detrimental influence on the water properties when used on bodies of water.

With kind regards,
The director of the institute
By proxy

Dipl.-Ing. Michael Sauerwald
Head of the department
sewage, soil and air hygiene

Ulrich Tolksdorf
Area manager
sewage, soil and air hygiene

Annex

Ø Materialprüfungsamt Dortmund

Oilex GmbH
Dujardinstraße 7
47829 Krefeld

Oil binder "Oilex"

Processing period: 28 August to 10 September 2013

a) Substance analysis

pH-value(1+4) = 3.80

Screen analysis

> 63 µm = 99.8 %
< 63 µm = 0.2 %

b) Eluate analysis according to DIN 38 414 part 4

Parameter			Oil binder "Oilex"	Limits according to regulation	
				Type I, II and IV	Type III
pH-value			4.06	4 - 11	4 - 11
Org. carbon	C	mg/l	193	≤ 50	≤ 80
Phenols		mg/l	< 0.010	≤ 0.2	≤ 50
Arsenic	As	mg/l	< 0.001	≤ 0.2	≤ 0.2
Lead	Pb	mg/l	< 0.001	≤ 0.2	≤ 1
Cadmium	Cd	mg/l	< 0.0001	≤ 0.05	≤ 0.1
Copper	Cu	mg/l	0.008	≤ 1	≤ 5
Nickel	Ni	mg/l	< 0.001	≤ 0.2	≤ 1
Mercury	Hg	mg/l	< 0.0002	≤ 0.005	≤ 0.02
Zinc	Zn	mg/l	0.007	≤ 2	≤ 5
Fluoride	F^-	mg/l	< 0.05	≤ 5	≤ 15
Cyanide. lfr.	CN	mg/l	< 0.01	≤ 0.1	≤ 0.5
Evaporation residue		%	0.0501	≤ 3	≤ 6
Barium	Ba	mg/l	< 0.005	≤ 5	≤ 10
Chrome	Cr ges.	mg/l	< 0.001	≤ 0.3	≤ 1
Molybdenum	Mo	mg/l	< 0.001	≤ 0.3	≤ 1
Antimony	Sb	mg/l	< 0.001	≤ 0.03	≤ 0.07
Selenium	Se	mg/l	< 0.001	≤ 0.03	≤ 0.05
Chloride	Cl^-	mg/l	5	≤ 1500	≤ 1500
Sulphate	SO_4	mg/l	< 5	≤ 2000	≤ 2000
Electr. conductivity		μScm^{-1}	116	–	–