

DEKRA Umwelt GmbH - Handwerkstr. 15 - D-70565 Stuttgart

DEKRA Umwelt GmbH
Umweltgutachterorganisation
[Environmental verifying organisation]
Labor für Umwelt- und Produktanalytik
[Laboratory for Environmental and Product Analysis]
Handwerkstr. 15

RAW Handel und Beratungs GmbH
Grünstrasse 5

70565 Stuttgart
Phone +49.711.7861-2333
Fax +49.711.7861-2891

D-79232 March-Hugstetten

Contact Dr. Roland Ackermann
Phone, direct +49.711.7861-2112
E-mail roland.ackermann@dekra.com
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Test report no.: 79020C/08

Project no.: 55079020

Ordering party: RAW Handel und Beratungs GmbH
Grünstrasse 5

D-79232 March-Hugstetten

Date of order: 14/12/2007

Scope of examination: Reaction behaviour and fluid retention capacity of a chemical binder

Test sample: Chemical binder

Sample receipt: 14/12/2007

Sample name: Elephant Sorb

Test results:

- see continuation sheet/sheets -

Accredited Analysis Laboratory DAP-PA-2887.99 in Stuttgart and Halle (Saale).

DEKRA Umwelt GmbH
Umweltgutachterorganisation
Handwerkstraße 15
D - 70565 Stuttgart
www.dekra-umwelt.com

Head office Stuttgart, Registration Court in Stuttgart
Commercial Register, HRB No.16064
[Bank details of DEKRA]
VAT Identification Number DE811457873

Managing director
Dr.-Ing. Bernd Steisslinger

79020C.doc

Test report no.: 79020C/08

1 Sample name

Sample number	Product name
79020B-1	Elephant Sorb

2 Reaction behaviour and fluid retention capacity with flammable and combustible liquids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Heptane	< 10 °C	< 100 ml / kg 24h	51%
THF (tetrahydrofuran)	< 10 °C	< 100 ml / kg 24h	63%
Toluene	< 10 °C	< 100 ml / kg 24h	56%
Ethanol (96%)	< 10 °C	< 100 ml / kg 24h	56%

3 Reaction behaviour and fluid retention capacity with water-insoluble organic liquids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Palm oil	< 10 °C	< 100 ml / kg 24h	52%
Biodiesel	< 10 °C	< 100 ml / kg 24h	54%
Ethyl acetate	< 10 °C	< 100 ml / kg 24h	59%

4 Reaction behaviour and fluid retention capacity with water-mixable organic liquids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Pentanol	< 10 °C	< 100 ml / kg 24h*	53%
DMSO (dimethyl sulfoxide)	< 10 °C	< 100 ml / kg 24h	63%
Triethanolamine	< 10 °C	< 100 ml / kg 24h	86%

5 Reaction behaviour and fluid retention capacity with aqueous polar liquids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Ethylene glycol	< 10 °C	< 100 ml / kg 24h	63%
Magnesium chloride (33%)	< 10 °C	< 100 ml / kg 24h	67%
Methyl cellulose (0,5%)	< 10 °C	< 100 ml / kg 24h	74%

6 Reaction behaviour and fluid retention capacity with acids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Hydrochloric acid (7,2%)	< 10 °C	< 100 ml / kg 24h	200%
Hydrochloric acid (32%)	< 10 °C	< 100 ml / kg 24h	210%
Nitric acid conc. (65%)	< 10 °C	< 100 ml / kg 24h	220%
Sulphuric acid conc. (96%)	< 10 °C	< 100 ml / kg 24h	190%
Glacial acetic acid	< 10 °C	< 100 ml / kg 24h	140%

7 Reaction behaviour and fluid retention capacity with lyes

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Caustic soda (33%)	< 10 °C	< 100 ml / kg 24h	190%
Chlorine bleach (6-14% active chlorine)	< 10 °C	< 100 ml / kg 24h	105%

8 Reaction behaviour and fluid retention capacity with oxidative liquids

The investigations were carried out over a period of 24 h and the results were recorded

Test solution	Temperature behaviour	Gas release behaviour	Fluid retention capacity
Hydrogen peroxide 30%	< 10 °C	< 100 ml / kg 24h	90%
Perchloric acid conc. (70%)	< 10 °C	< 100 ml / kg 24h	210%
Chlorine bleach (6-14% active chlorine)	< 10 °C	< 100 ml / kg 24h	175%

9 Evaluation

The chemical binder is not reactive towards the solutions used in testing with regard to gas release and change of temperature.

The fluid retention capacity is >50% with all test solutions.

Advice:

The test results apply only to the above mentioned test items. The issuance of a summary of the test report is subject to the written approval of the laboratory.

Stuttgart, 9th April 2009

DEKRA Umwelt GmbH
Laboratory for Environmental and Product Analysis

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Dr. Roland Ackermann

TRANSLATION FROM THE ORIGINAL TEXT IN GERMAN LANGUAGE