LIGNOCEL®
Premium Hygienic Animal Bedding

for modern Laboratory Animal Husbandry

Certified top quality according to ISO, HACCP, PEFC

Better product properties for higher cost efficiency
The Clean, Natural Answer for Modern Animal Care

Litter is a part of the small animal's immediate environment and is often eaten by the animal.

Litter is a significant exogenous factor for the reproducibility and the evaluation of research evidence.

For these reasons, it is extremely important that only litter be used that is best suited to the natural requirements of the animal and that has no variations in quality.

Only in a litter that is environmentally suited to animal's needs, can the animal feel secure and exhibit normal behavior.

LIGNOCEL® soft wood fibers have proven successful as litter in long term experiments and afford a reliable, hygienic cage floor covering.

LIGNOCEL® animal litter can be used with all types of animals.
LIGNOCEL® Guarantees an Optimal Cost-Benefit Ratio

LIGNOCEL® is
- highly absorbent
- extremely dust-free
- dry
- produced from untreated solid wood
- biodegradable
- natural raw materials from the region
- easy to use
- delivered in autoclavable sacks
- designed for sterile operation
- consistently high industrial quality
- environmentally friendly production process

LIGNOCEL® - a quality product you can trust!

The LIGNOCEL® Hygienic Animal Bedding programme has a suitable solution ready for all types of application profile – our team is happy to advise you!

---

**Chemical and physical characteristics of LIGNOCEL®**

<table>
<thead>
<tr>
<th>Raw material</th>
<th>LIGNOCEL® 3/4-S</th>
<th>LIGNOCEL® S 8/15</th>
<th>LIGNOCEL® BK 8/15</th>
<th>LIGNOCEL® FS-14</th>
<th>LIGNOCEL® Select</th>
<th>LIGNOCEL® Select Fine</th>
<th>REHOFIX® MK 2000</th>
<th>REHOFIX® MK 3500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>spruce/fir</td>
<td>spruce/fir</td>
<td>spruce/fir</td>
<td>spruce</td>
<td>poplar</td>
<td>poplar</td>
<td>maize</td>
<td>maize</td>
</tr>
<tr>
<td>Particle size</td>
<td>2.0 - 4.0 mm</td>
<td>1.2 - 1.6 mm</td>
<td>1.4 - 1.8 mm</td>
<td>2.5 - 3.5 mm</td>
<td>2.5 - 3.5 mm</td>
<td>1.4 - 1.8 mm</td>
<td>1.7 - 2.2 mm</td>
<td>2.3 - 3.5 mm</td>
</tr>
<tr>
<td>Main part approx.</td>
<td>1.2 - 1.6 mm</td>
<td>1.4 - 1.8 mm</td>
<td>2.5 - 3.5 mm</td>
<td>2.5 - 3.5 mm</td>
<td>1.4 - 1.8 mm</td>
<td>1.7 - 2.2 mm</td>
<td>2.3 - 3.5 mm</td>
<td></td>
</tr>
<tr>
<td>Bulk weight</td>
<td>120-160 g/l</td>
<td>120-180 g/l</td>
<td>130-220 g/l</td>
<td>180-250 g/l</td>
<td>160-230 g/l</td>
<td>130-220 g/l</td>
<td>500-600 g/l</td>
<td>300-450 g/l</td>
</tr>
<tr>
<td>Share of fine particles &lt; 200 approx.</td>
<td>&lt; 0.5 %</td>
<td>&lt; 0.5 %</td>
<td>&lt; 0.2 %</td>
<td>&lt; 0.2 %</td>
<td>&lt; 0.2 %</td>
<td>&lt; 0.2 %</td>
<td>&lt; 0.1 %</td>
<td>&lt; 0.1 %</td>
</tr>
<tr>
<td>Moisture approx.</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
<td>13 %</td>
</tr>
<tr>
<td>Water-binding capacity **</td>
<td>app. 372 %</td>
<td>app. 178 %</td>
<td>app. 324 %</td>
<td>app. 258 %</td>
<td>app. 254 %</td>
<td>app. 321 %</td>
<td>app. 310 %</td>
<td>app. 250 %</td>
</tr>
<tr>
<td>Absorption speed *</td>
<td>5 secs</td>
<td>23 secs</td>
<td>36 secs</td>
<td>56 secs</td>
<td>45 secs</td>
<td>30 secs</td>
<td>immediately</td>
<td>immediately</td>
</tr>
<tr>
<td>pH-value</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
<td>5.5 +/- 1</td>
</tr>
</tbody>
</table>

* 100 ml beaker glass, filling level up to 15 ml + 10 ml water
** (output weight sieve mass) / mass * 100 = water binding capacity
Quality and Reliability

For decades JRS - J. Rettenmaier & Söhne has been a byword for trend-setting product ideas made from natural, renewable raw materials.

Environmentally friendly and continually developed production technology and an optimal quality assurance system enable a constantly high industrial quality standard. Production takes place according to the strict criteria of the ISO 9001 + HACCP with continuous analysis and inspections. Production is carried out in modern, automated plants in a closed process.

A qualified, highly-motivated production team ensure continuity, precision and first class performance.

Research and Development

In our research and development laboratories we continually work on new applications and product improvements alongside the regular inspections and tests. This allows us to guarantee an innovative and technical advantage as your partner.

Through constant optimisation and development of our plants and processing methods we can offer you an optimum long-term price-performance ratio. Use our know-how and our experience in the use of fibrous materials in industrial production.
JRS guarantees optimal product characteristics and unique top quality with a technologically developed special production process.

The result:
- optimum hygiene
- the highest production quality
- outstanding fluid absorption and binding capacity
- creating massive potential savings in handling / deployment of personnel, use and disposal

Superior fluid absorption and ammonia binding is guaranteed by the new improved manufacturing technology High Performance Fibrillation (HPF) and the opening of the capillaries!

Play it safe and put your trust in the market and technology leader!

environmentally friendly and biodegradable natural wood products from domestic forests

Production according to ISO 9001, HACCP and PEFC
LIGNOCEL® - Packaging: Avoid Trouble with the Correct Packaging Concept!

LIGNOCEL® is delivered in white polypropylene sacks. This reliable packaging offers crucial benefits:

- autoclavable,
- tear-proof,
- suitable for euro pallets.

The benefits of LIGNOCEL® pallets:

- lower handling costs,
- optimal use of the stockroom area,
- the sacks remain clean during transport and storage
- it enables quick, cost-effective loading and unloading from trucks, containers, etc.

Packaging:

- in Sacks or BigBags on Hygienic Euro Pallets
- Silo trucks

For more information please contact:

Hotline:
+ 49 (0) 7967 / 152 228
technik@jrs.de
Quality Products which Offer Maximum Benefits

JRS – Your competent commercial partner – worldwide

- More than 130 years experience in the operation and processing of plant fibres
- Comprehensive technical know-how in use and production
- Special products for different areas of application, e.g. food industry, pharmacy, chemistry
- The highest quality standards
- Worldwide delivery, consultation, logistics, service
- Worldwide presence with JRS offices and more than 200 agents
- 18 production locations in Germany, Finland, Hungary, UK, USA, Mexico and India
- More than 1400 qualified employees in the JRS group
- Innovation partners with their own research and development laboratories and constant application optimisation
- Certified quality management according to ISO9001, HACCP, PEFC, etc.
- Natural raw materials, environmentally friendly production

We are available to provide you with detailed information about our technical service – we look forward to hearing from you!

J. RETTENMAIER & SÖHNE GMBH+CO.KG
Business Unit Technical Applications
73494 Rosenberg (Germany)
Phone: +49 (0) 7967 / 152 228
Fax: +49 (0) 7967 / 152 500 228
technik@jrs.de • www.jrs.de

Worldwide Headquarters
J. RETTENMAIER & SÖHNE GMBH+CO.KG
Fibres designed by Nature