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## **FibreZyme™ PDI 100**

### **Product #959**

(Considerations in applications for Pulp and Paper.)

#### **Description:**

**FIBREZYME PDI 100** is an enzyme complex that selectively modifies cellulosic fibers to aid in the separation of ink and other debris from recycled papers. **FIBREZYME PDI 100** is in powdered form and will operate in broad range of pH 4.5–8.5 and temperature 25°C–60°C (77°F–140°F).

#### **Product Benefits:**

When applied as directed in this bulletin, **FIBREZYME PDI 100** can help to accomplish the following:

- Decreases the need for pulping chemicals such as soda, peroxide and silicate.
- Reduces black spots from both thermochemical inks and oil based inks.
- Reduces stickies through dispersion.
- Increases in whiteness and brightness of up to 3 points.
- Improves softness due to easier fiber rewetting and swelling.
- Reduces fines leading to cleaner white water loops.
- Improves mechanical strength properties.
- Improves paper formation and drainability leading to either the reduction of steam demand for paper drying or conversely increases in the paper machine speed and runnability.
- Reduces COD level in waste water treatment and therefore the reduction of the chemical load in the treatment of the aforementioned waste water.

#### **Properties:**

Appearance: Tan to light yellow powder (Note that color does not affect or reflect activity.)  
Odor: Slight fermentation odor  
Solubility: Miscible with water  
pH (1% solution): 4.5 ± 1.0

#### **Effect of Temperature:**

**FIBREZYME PDI 100** will function from 25°C–60°C with an optimum of 50°C–60°C.

Higher operating temperature results in higher enzymatic activity providing lower enzyme dosage for a particular application.

#### **Effect of Ph:**

**FIBREZYME PDI 100** will function from a pH of 4.5–8.5 with an optimum of 7.5.

### **Dosage:**

**FIBREZYME PDI 100** is added at a dosage between 20-50 g/ton (metric ton) of dry pulp. We have found a general optimum at 30 g/ton. Contact your representative for further assistance in determining optimal dosage for your mill. The enzymatic treatment is best at the digester (wastepaper repulper).

As there is an inverse relationship between reaction time and enzyme dosage to obtain a maximum bleach effect, tank levels where enzymatic treatment is performed must be kept at the highest possible level while maintaining adequate mixing.

### **Termination:**

**FIBREZYME PDI 100** can be inactivated by raising the pH above 11.0 or temperature above 71°C (160°F) or a combination of the two. Oxidizers such as peroxide and hypochlorite can also be used to inactivate the enzyme. In the pulp and paper process, **FIBREZYME PDI 100** is inactivated in the dryers at the paper machine. No residual enzymatic activity will be found in the manufactured paper.

### **Packaging:**

Standard package size for **FIBREZYME PDI 100** is 30 kilogram plastic drums. Alternate custom packaging is available upon request for smaller or larger volumes.

### **Handling and Safety:**

**FIBREZYME PDI 100** can be an irritant to some individuals; avoid contact with skin and eyes. Take necessary precautions to avoid breathing dust. Refer to product MSDS for further safety information. Always close drum after opening.

### **Storage:**

**FibreZyme PDI 100** retains more than 90% activity after four months when stored at 25°C (77°F) out of direct sunlight and in the original, closed container. **FibreZyme PDI 100** also retains more than 90% activity after 1 month when stored at 38°C (100°F). Do not let freeze.

Nothing disclosed is to be construed as a recommendation to use our products in violation of any patents. The information presented is believed to be accurate. However, said information and products are offered without warranty or guarantee, except as to the composition and purity stated herein since the ultimate conditions of use and variability of the materials treated is beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale. The goods described herein are sold as is and with all faults. The seller specifically disclaims all warranties in connection with the sale of the goods, both express and implied, including, without limitation, the warranties of merchantability and fitness for any particular purpose, as those terms are defined in the uniform commercial code of Florida. The seller shall not be liable for any incidental or consequential damages whatsoever.