



255 Fountain Street Akron, Ohio 44304-1991  
 330-535-2100 ♦ 800-321-2260 ♦ Fax 330-535-8947

## FIRE RETARDANTS

-ATH-

### HYDRAL 710

#### PRODUCT DESCRIPTION:

Hydral 710 is a specially precipitated white aluminum trihydrate (ATH). It is non-toxic, non-corrosive, flame retardant and smoke suppressant utilized in elastomeric applications. It is the most frequently used flame retardant in the world. ATH is a very effective flame retardant due to its thermodynamic properties which absorb heat and release water vapor. Aluminum trihydrate releases its 35% water of crystallization as water vapor when heated above 205°C. The resulting endothermic reaction cools the product below flash point, reducing the risk of fire and acts as a vapor barrier to prevent oxygen from reaching the flame. Typical loadings vary from 20 phr to 150 phr. Because many polymers like polyethylene and polypropylene process above 200°C, these polyolefins should use magnesium hydroxide as a flame retardant filler since its water of hydration releases at approximately 325°C.

#### TYPICAL PROPERTIES:

|   |  |
|---|--|
| Chemical Decomposition.....                         | $\text{Al}(\text{OH})_3 \rightarrow \text{Al}_2\text{O}_3 - 3\text{H}_2\text{O}$ |
| $\text{Al}(\text{OH})_3$ .....                      | 99.5%  |
| Loss on Ignition .....                              | 34.6%  |
| $\text{SiO}_2$ .....                                | 0.004%   |
| $\text{Fe}_2\text{O}_3$ .....                       | 0.007%   |
| $\text{Na}_2\text{O}$ .....                         | 0.24%  |
| Brightness .....                                    | 99+  |
| Color .....   | White  |
| Bulk Density (packed), $\text{g}/\text{cm}^3$ ..... | 0.51   |
| Bulk Density (loose), $\text{g}/\text{cm}^3$ .....  | 0.30   |
| Surface Area, $\text{m}^2/\text{g}$ .....           | 4.0  |
| Free Moisture, %.....                               | 0.2  |
| Median Particle Size, $\mu$ .....                   | 1.1  |
| Density, $\text{g}/\text{cm}^3$ .....               | 2.4  |

#### APPLICATION:

Hydral 710 has special attributes such as: unique and precise particle size distribution, high brightness and low moisture to aid processing and enhance physical properties.

® Hydral is a registered trade name of the J.M. Huber Corporation.  
 rh - 8/11, t-alumina trihydrate

Included with its product literature and upon the request of its customers, Akrochem provides product specifications and evaluations, suggested formulations and recommendations and other technical assistance, both orally and in writing (collectively the "Technical Information"). Although Akrochem believes all Technical Information to be true and correct, it makes no warranty, either express or implied, as to the accuracy, completeness, or fitness of the Technical Information for any intended use, or the results which may be obtained by any person using the Technical Information. Akrochem will not be liable for any cost, loss or damage, in tort, contract or otherwise, arising from customer's use of Akrochem products or Technical Information. It is the customer's sole responsibility to test the products and any Technical Information provided to determine whether they are suitable for the customer's needs. Before working with any product, the

customer must read and become familiar with available information concerning its hazards, proper use, storage and handling, including all health, safety, and hygiene precautions recommended by the manufacturer. Nothing in the Technical Information is intended to be a recommendation to use any product, method, or process in violation of any intellectual property rights governing such product, method, or process. No license is implied or granted by Akrochem as to any such product, method, or process. AKROCHEM CORPORATION DISCLAIMS ANY AND ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE, RELATED TO ANY PRODUCTS OR TECHNICAL INFORMATION PROVIDED BY AKROCHEM.