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## FIRE RETARDANTS

### **HYMOD<sup>®</sup>** **(TREATED ALUMINA TRIHYDRATE)**

#### **DESCRIPTION:**

Hymod<sup>®</sup> is the Huber trademark for surface-treated alumina trihydrate (ATH or hydrated alumina). These are non-toxic, non-corrosive, flame retardant and smoke suppressant utilized in elastomeric applications. ATH is a very effective flame retardant due to its thermodynamic properties which absorb heat and release water vapor. Alumina 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.

MoldX A120 is unique due to its ability to improve processing behavior at high loadings when compared to traditional ATHs. Improvements may include: excellent surface profiles in molded and extruded parts, smooth surfaces, excellent dispersibility and reduced mix cycles.

#### **TYPICAL CHEMICAL PROPERTIES:**

Chemical Decomposition.....	Al(OH) <sub>3</sub> → Al <sub>2</sub> O <sub>3</sub> - 3H <sub>2</sub> O
Al <sub>2</sub> O <sub>3</sub> .....	65.0%
Loss on Ignition .....	34.6%
SiO <sub>2</sub> .....	0.005%
Fe <sub>2</sub> O <sub>3</sub> .....	0.007%
Na <sub>2</sub> O.....	0.20%
Free Moisture .....	0.20%

#### **TYPICAL PHYSICAL PROPERTIES:**

Median Particle Size .....	12 um
Surface Area.....	1.2 m <sup>2</sup> /gm
Specific Gravity .....	2.42
TAPPI Brightness .....	87
325 Mesh (through) .....	93%

MOLDX<sup>™</sup> is a registered trade name of J.M. Huber Corporation  
 jh 0703, moldx 120

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