

Technical Data Sheet

Aquathene FR420000

W&C Polyolefin Compound



Product Description

Aquathene FR420000 is a colorable flame retardant catalyst masterbatch selected by customers for use in moisture cure applications. FR420000 also contains antioxidants, metal deactivator and stabilizers for sunlight resistance. When FR420000 is melt blended with *Aquathene* AQ120000 in a 52% / 48% ratio, respectively, and crosslinked after exposure to moisture, this formulation is typically used in low voltage power and control cable applications where UL44 and CSA 22.2 (No. 38 and No. 52) specify VW-1 and FT-4 flame rating with 90°C service in wet locations.

Regulatory Status

For regulatory compliance information, see *Aquathene* FR420000 [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

Status	Commercial: Active
Availability	North America
Application	Wire & Cable
Market	Wire & Cable
Processing Method	Wire & Cable

Typical Properties	Nominal		Test Method
	Value	Units	
Physical			
Melt Flow Rate, (190 °C/2.16 kg)	1.4	g/10 min	ASTM D1238
Density, (23 °C)	2.01	g/cm³	ASTM D1505

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Users should determine the conditions necessary to obtain optimum product properties and suitability of the product for the intended application.

The total system crosslinks after the materials are mixed during extrusion and subsequently exposed to moisture. Crosslinking can be achieved by exposure to steam, immersion in water or storage at ambient conditions. Since cure time varies considerable with environmental conditions and cable constructions, contact your LyondellBasell sales or technical service representative for detailed cure conditions.

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

General Extrusion Conditions

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Aquathene FR420000, like other thermoplastic polyolefin compounds, can be extruded using a conventional extruder. Below are suggested extrusion conditions for *Aquathene* FR420000. These conditions are intended as general guidelines only, and are not optimum values, since manufacturing variables such as extruder type and size have an effect on processing of thermoplastic compounds.

A suggested temperature profile for use with a 2.5", 24:1 extruder equipped with a Maddock mixing screw follows:

<u>Extruder Zone</u>	<u>Temperature Range</u>	<u>Extruder Zone</u>	<u>Temperature Range</u>
Feed	275 - 280 °F (135 - 138 °C)	Zone 5	325 - 335 °F (163 - 168 °C)
Zone 2	290 - 295 °F (143 - 146 °C)	Flange / Adapter	325 - 335 °F (163 - 168 °C)
Zone 3	310 - 315 °F (154 - 157 °C)	Throat / Die	335 - 345 °F (168 - 174 °C)
Zone 4	310 - 315 °F (154 - 157 °C)	Wire Preheat	215 - 225 °F (102 - 107 °C)

Material Handling

Aquathene FR420000 is supplied in moisture barrier liners. *Aquathene* FR420000 can absorb moisture when exposed to the environment; therefore, it should be dried prior to use.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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Users should review the applicable Safety Data Sheet before handling the product.

This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:

- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.
- (v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

In addition to the above, LyondellBasell may further prohibit or restrict the use of its products in certain applications. For further information, please contact a LyondellBasell representative.

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