QUALITY PERFORMS.

LANXESS Bromine Solutions

Brominated polymeric flame retardant for polystyrene foams

Emerald Innovation® 3000

QUALITY WORKS.

LANXESS
Energizing Chemistry

A GLOBAL LEADER IN FLAME RETARDANTS
INNOVATIVE. RELIABLE. SUSTAINABLE.

For close to a century, we have helped our customers to meet their needs with a broad portfolio of products and solutions. We are proud of our history, and look forward to helping our customers meet future performance, safety and compliance requirements by refining and redefining our portfolio with new and improved products that maximize sustainability. LANXESS Bromine Solutions is dedicated to providing products that are innovative, reliable and also minimize the impact on our environment and human health without sacrificing performance or quality.

Sustainable, innovative, high-performance, brominated polymeric flame retardant for polystyrene foams

Emerald Innovation® 3000 is a highly effective, sustainable brominated polymeric flame retardant offering a variety of enhanced performance properties. This innovative flame retardant is an excellent replacement for Hexabromocyclododecane (HBCD) in both expanded polystyrene (EPS) and extruded polystyrene (XPS) foam products.

Emerald Innovation® 3000 offers many advantages

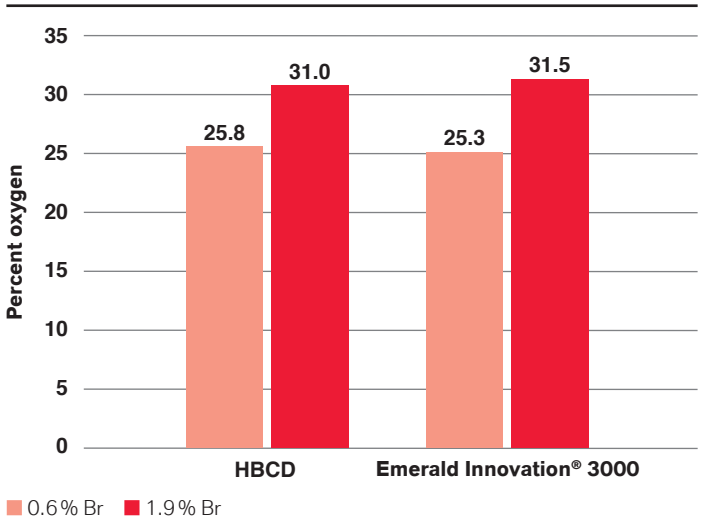
- It is a stable, high-molecular weight polymer
- Its polymeric structure makes it not readily bioavailable, thus reducing the environmental concerns that threaten the sustainability of other commercially available brominated flame retardants for polystyrene foams
- It is a comparable alternative to HBCD in EPS and XPS foams, requiring minimal reformulation to use in existing production lines
- Can be used with FR synergist that are commonly used today in EPS/XPS applications
- Its reduced tendency to retain water helps to decrease the residual water content of EPS beads, providing improved process efficiency
- Enables formulators to achieve applicable fire safety standards for polystyrene foam insulation. In pilot plant scale trials in XPS, Emerald Innovation® 3000 successfully passed the EN ISO 11925-2 and German DIN 4102 B2 flammability tests.
- Provides comparable fire performance[1] in polystyrene foam to foam containing HBCD at equivalent bromine levels.

[1] Like HBCD, Emerald Innovation® 3000 will need to be stabilized for use in higher temperature processing conditions such as XPS foam applications

Physical characteristics

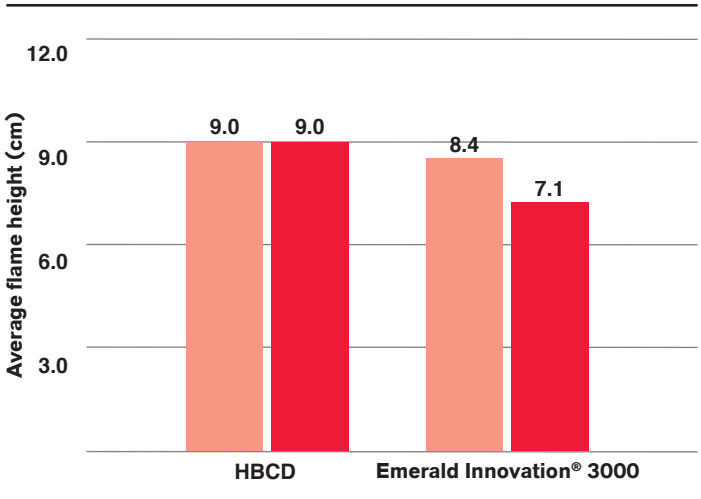
Physical form:	Compacted white powder
Bromine content:	~64 %
Softening point:	120 °C
Molecular weight:	100,000–160,000 g/mol
TGA 5% wt loss:	255 °C

Limiting oxygen index (LOI)



LOI of XPS foam with Emerald Innovation® 3000 equivalent to HBCD at same bromine content

Flammability performance



Contact us today to learn more about Emerald Innovation® 3000, a cost-effective, performance alternative to HBCD for use in polystyrene foams.

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LANXESS
Energizing Chemistry

LANXESS Solutions US Inc.
199 Benson Road
Middlebury, CT 06749
USA
Tel: +1-203-573-2000

add.lanxess.com