



March 30, 2023

Officially Licensed BLUEDGE™ Brand Polymeric Flame Retardant Technology: Clarification for Identifying Authentic Product

<https://www.dupont.com/about/sustainability/innovating-safer-by-design/safer-greener-building-materials.html>

To comply with building regulations and ensure the safety of people, the construction industry relies on high performing flame-retardant insulation products. Until recently, polystyrene-based building insulation products, such as extruded polystyrene (XPS) and expanded polystyrene (EPS) foam insulation materials, commonly utilized hexabromocyclododecane (HBCD) as a flame retardant to protect against fires. However, HBCD was eventually classified as a persistent, bioaccumulative, and toxic material. To improve overall safety and address energy and climate requirements, the industry needed a less toxic, more environmentally friendly solution, without any compromise on fire safety performance.

DuPont BLUEDGE™ Brand Polymeric Flame Retardant Technology does exactly that. It was the result of a multi-year research program focused on developing a low-toxicity alternative to HBCD for use as a fire retardant in polystyrene insulation foam. Key design criteria included toxicological profile, foam processing performance, foam fire performance, foam thermal insulation performance, foam mechanical properties, and economic feasibility.

The benefits offered by polymeric flame retardant (PFR) produced using BLUEDGE™ technology—including its inherently low toxicity relative to HBCD and other low molecular weight chemistries—were validated by the U.S. EPA in its [Design for the Environment](#) report on fire resistance alternatives to HBCD, and PFR has been recognized by the Ministry of Industry and Information Technology for the People’s Republic of China as a [suitable alternative to HBCD](#).

The BLUEDGE™ polymeric flame retardant and its manufacturing process are protected by worldwide patents owned by affiliates of DuPont de Nemours, Inc. (“DuPont”) that are officially licensed to three dedicated companies across the globe as technology license partners for BLUEDGE™ Polymeric Flame-Retardant (PFR) Technology and is sold under the following product designations:

Licensing Partner 授权合作方	Product Designation 产品名称
Shandong Sunris New Materials Co., LTD 山东旭锐新材股份有限公司	SR-105
LANXESS Corporation 朗盛化学	Emerald Innovation® 3000
ICL Industrial Products 以色列化工	FR-122P

DuPont's three BLUEEDGE™ licensees manufacture PFR marketed and sold under the respective product designations of SR-105 (Sunris), Emerald Innovation® 3000 (Lanxess), and FR-122P (ICP-IP). These are the only PFR manufacturers that are officially [licensed](#) to produce PFR under DuPont's licensed patent portfolio, which includes composition of matter patent US7851558B2 and foreign equivalents such as Chinese patent ZL200680042226.1, and are associated with the BLUEEDGE™ brand.

DuPont uses building science to innovate as if our future depends on it. Because it does. Learn more about DuPont Performance Building Solutions' [sustainability](#) efforts and [let's collaborate](#) to help make our planet a healthier place to live.

Footnote: Blueedge™ is a registered trademark of affiliates of DuPont de Nemours, Inc. ("DuPont").



官方授权的 BLUEEDGE™ 品牌聚合物型阻燃技术：正品鉴别说明

<https://www.dupont.com/about/sustainability/innovating-safer-by-design/safer-greener-building-materials.html>

为了遵守建筑规范并确保人员安全，建筑行业需要高性能的阻燃保温材料。直到最近，聚苯乙烯类建筑保温产品（例如挤塑聚苯乙烯(XPS)和发泡聚苯乙烯 (EPS)泡沫保温材料）通常还会使用六溴环十二烷(HBCD)作为防火阻燃剂。但是，HBCD 已经最终被列为具有持久性、生物蓄积性和毒性的材料。为了提高整体安全性并满足能源和气候要求，行业需要在不牺牲防火安全性能的前提下，找到毒性更低、更环保的解决方案。

杜邦 BLUEEDGE™ 品牌聚合物型阻燃技术能够完美契合这一需求。该技术是多年研究的成果，这项研究的主要目标是针对聚苯乙烯保温泡沫的阻燃剂需求，开发 HBCD 的低毒性替代品。关键设计标准包括毒理学特性、泡沫加工性能、泡沫防火性能、泡沫保温性能、泡沫机械特性和经济可行性。

使用 BLUEEDGE™ 技术生产的聚合物型阻燃剂（PFR）具有多种优势（包括相较于 HBCD 和其他低分子量化学物质而言的固有低毒性），这些优势已经获得美国环保署关于 HBCD 的阻燃剂替代品的 [环保设计](#) 报告的确认，并且中华人民共和国工业和信息化部已经将聚合物型阻燃剂认定为 [HBCD 的合适替代品](#)。

BLUEEDGE™ 聚合物型阻燃剂及其制造工艺受 DuPont de Nemours, Inc.（“杜邦公司”）的关联公司拥有的全球专利保护，这些专利已经正式许可给全球范围内三家专业公司（作为 BLUEEDGE™ 聚合物型阻燃技术的技术授权合作方），并且使用下列产品名称销售 BLUEEDGE™ 聚合物型阻燃剂：

Licensing Partner 授权合作方	Product Designation 产品名称
Shandong Sunris New Materials Co., LTD 山东旭锐新材股份有限公司	SR-105
LANXESS Corporation 朗盛化学	Emerald Innovation® 3000
ICL Industrial Products 以色列化工	FR-122P

杜邦公司授权的三家 BLUEEDGE™ 被许可方生产的聚合物型阻燃剂分别使用 SR-105 (旭锐)、Emerald Innovation® 3000 (朗盛)和 FR-122P (以色列化工)名称进行营销和销售。上述企业是仅有的三家经官方[授权](#)使用杜邦公司的相关专利组合（包括美国物质组分专利 US7851558B2 以及同等的外国专利，例如中国专利 ZL200680042226.1）生产聚合物型阻燃剂，并与 BLUEEDGE™ 品牌存在关联的厂商。

杜邦公司积极利用建筑科技进行创新，将其视为人类未来的重要依靠，而事实也正是如此。进一步了解杜邦高性能建筑解决方案为[可持续发展](#)作出的努力，[让我们携手合作](#)，将地球建设成为更健康的宜居星球。

2023年3月30日

标注：Bluedge™ 是 DuPont de Nemours, Inc.（“杜邦公司”）的关联公司拥有的注册商标。