



# HALOGEN-FREE FLAME RETARDANT COMPOUNDS

## RTP COMPANY INNOVATION BULLETIN

- ▶ Environmentally-conscious ignition resistance for product safety
- ▶ Bromine/chlorine/heavy metal-free for global environmental compliance
- ▶ Reduced smoke generation for enclosed space applications

### ADDITIONAL BENEFITS

- Fully compliant with RoHS and other environmental regulations
- Produce a single product that can be sold globally.
- Meet consumer demand for “green” products.
- Product safety without compromising engineering performance
- Formulations to meet UL94 or glow wire specifications
- Reduced specific gravity allows more parts to be molded at lower cost.
- Minimal corrosive effect on processing equipment and electrical components.
- Combine multiple engineering solutions in a single material.

Imagine a family of flame retardant (FR) compounds that help ensure product safety by providing ignition resistance, but are also environmentally-friendly without compromising physical performance. At RTP Company, we not only imagined them, we’ve made them a reality.

Halogen-free\* FR compounds help your products comply with HES (Human and Environmental Safety) standards allowing a single version to be sold worldwide. Regional environmental regulations, such as the European RoHS Directive, limit or ban the sale of products containing certain halogen FR systems. Additionally, many OEMs are voluntarily reducing or eliminating their use of materials containing halogens to appeal to consumers seeking “green” products.



Next generation non-halogenated FR plastics provide valuable product safety features with UL94 or glow wire ignition resistance properties while meeting the demanding performance criteria of highly engineered applications.

Halogen-free FR materials have the added benefit of being less corrosive than traditional FR chemistries, reducing their impact on manufacturing tooling and electrical components. Lower densities also allow more parts to be molded with less material resulting in reduced material cost. Reduced smoke generation makes non-halogenated FR products suitable for enclosed space uses.

Continual development by RTP Company has resulted in halogen-free FR compounds available in a broad spectrum of thermoplastic resins that include polyolefins, nylons, polyesters, and thermoplastic elastomers. The combination of FR protection and eco-compliance makes halogen-free compounds ideal for electronic devices, business equipment, appliances, building components, and transportation interiors. Halogen-free FR compounds...another innovation from RTP Company: your global compounder of custom engineered thermoplastics.

\* Halogen-free as defined by IEC 61249-2-21



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## The Growing Impact of Restricted Substance Legislation

Human and Environmental Safety (HES) concerns have evolved beyond the regional market influence of eco-labels into governmental legislation which affect the global marketplace. The European Union's Restriction of Hazardous Substances (RoHS) and Waste in Electrical and Electronic Equipment (WEEE) directives marked the beginning of a worldwide recognition of the importance of HES considerations, and many government bodies worldwide have since ratified similar legislation. In an effort to streamline and consolidate products, global OEMs and industrial associations have adopted similar, self-regulating restricted substance policies that ensure products are acceptable worldwide. RTP Company has technologies available, such as halogen-free flame retardant compounds, that will help your company meet these compliance requirements and maximize global market penetration for your products.



*Housing material for Innovate Media Solutions airline entertainment appliance is manufactured using a precolored RTP 2500 Series PC/ABS alloy flame retardant compound that is halogen-free and meets strict regulations for smoke emissions, allowing it to be used inside commercial airplane cabins.*

## Halogen-Free Flame Retardant Portfolio

RESIN SYSTEM	FLAMMABILITY RATING RANGE PER UL94
Polypropylene (PP)	V-0 @ 1/16" (1.5 mm)
Polyethylene (PE)	V-0 @ 1/16" (1.5 mm)
Nylon 6 (PA)	V-0 @ 1/32" (0.8 mm)
Nylon 6/6 (PA)	V-0 @ 1/32" (0.8 mm)
High Temperature Nylon (HTN)	V-0 @ 1/32" (0.8 mm)
Polycarbonate (PC)	V-0 @ 1/16" (1.5 mm)
Polycarbonate/ABS Alloy (PC/ABS)	V-0 @ 1/16" (1.5 mm)
Polysulfone/Polycarbonate Alloy (PSU/PC)	V-0 @ 1/16" (1.5 mm)
Polybutylene Terephthalate (PBT)	V-0 @ 1/32" (0.8 mm)
Polyethylene Terephthalate (PET)	V-0 @ 1/32" (0.8 mm)
Polytrimethylene Terephthalate (PTT)	V-0 @ 1/32" (0.8 mm)
Polyphthalamide (PPA)	V-0 @ 1/32" (0.8 mm)
Polyurethane Elastomer (TPUR)	V-0 @ 1/16" (1.5 mm)
Polyester Elastomer (TEEE)	V-0 @ 1/16" (1.5 mm)
Olefinic Elastomer (TEO)	V-0 @ 1/16" (1.5 mm)
Styrenic elastomer (TES)	V-0 @ 1/16" (1.5 mm)

## RTP Company: Your Global Compounder Of Custom Engineered Thermoplastics

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