



EcoFlameRetardant-HES

**NON-HALOGEN FLAME RETARDANT**

**Description:**

EcoFlameRetardant HES is a non-halogen mixed salt of aromatic sulfonates providing extremely effective flame retardant performance. The product was developed using Yucheng Chemical's high-purity sulfonation technology.

**Application**

EcoFlameRetardant HES is high efficiency product used specifically for flame retarding polycarbonate (PC). The product is specifically designed for most effectiveness in translucent and opaque PC and PC/ABS. It is also used to decrease the amount of phosphate ester needed to provide flammability performance in PC/ABS copolymer formulations.

**Typical Properties**

Property	Typical Value
Moisture,%	1.7%
Sulfate, %	0.86%
Iron, ppm	10 max
pH of water solution	7.0
Color APHA	20

**Loading Level**

Loading of EcoFlameRetardant HES is typically less than 0.2% for UL 94 VO @ 1.6 mm thickness flammability performance as shown is the following starting formulation:

PC (6MFI)	99.7%
EcoFlame HES	0.1%
PTFE antidrip	0.2%

The active sulfonate content of EcoFlameRetardant HES is much more than that of Potassium Perfluoro butyl sulfonate (EcoFlameRetardant S-338) and other sulfonate FR products currently used in PC. FR effectiveness has been shown to be related to the sulfonate content.

A starting formulation for PC/ABS(75/25) for UL94 VO @ 1.6mm is suggested below.



<b>PC/ABS (75/25)</b>	90.0%
RDP/BDP	10%
EcoFlame HES	0.2%
PTFE antidrip	0.2%

**Packing:**

EcoFlameRetardant HES was packed in 5kg fiber drums.