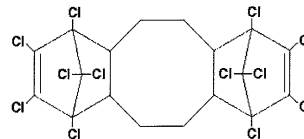




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## FIRE RETARDANTS



### CFR-25 & CFR-515

#### PRODUCT DESCRIPTION:

CFR-25 and CFR-515 flame retardant additives are highly effective, chlorine containing crystalline organic compounds, ground to free flowing, white powders. CFR-25 and CFR-515 are the same, differing only in particle size. The CFR additives are used as non-plasticizing flame retardants in polymeric systems. CFR additives are usually combined with antimony oxide (Sb<sub>2</sub>O<sub>3</sub>), but in some applications it can be used with other flame retardants. CFR additives generate 95% less smoke than commercial bromine-based additives.

#### TYPICAL PHYSICAL PROPERTIES:

	<b>CFR-25/CFR-515</b>
Appearance.....	white powder
Molecular weight .....	654
Chlorine, % .....	65.1
Density, g/cc.....	1.8
Bulk Density, lb/ft <sup>3</sup> .....	38-42
Melt Point, C.....	350
Density, g/cc.....	1.8
Average Particle Size, microns .....	5 max / 15 max
pH(methanol-water extract).....	6.0-8.0
Volatility, (4 hrs@100C @5mm Hg).....	0.12% max

#### APPLICATIONS:

CFR additives are used in adhesives, resins, coatings, roofing, wire and cable insulation, electrical/electronic components and other industrial goods applications requiring flame resistance. CFR additives can be used with polymers such as NR, SBR, CR, EPDM, CSM, EVA, PE, PU, HIPS and polyolefins.

CFR additives have a typical loading 5-50 phr depending on the type of compound and application. Using 20-25 phrs of CFR additives/ 5 phr antimony oxide in a wire cable application has been successful in producing lower smoke generation. CFR additives are excellent flame retardants for EPDM. A usage of 20-40 phr with antimony oxide can significantly reduce smoke generation.

#### CFR additives levels in other polymer systems:

- Chlorosulfonated Polyethylene – 5-10 phr
- Polychloroprene – 5-10 phr
- Natural rubber – 10-20 phr
- Polyethylene - 15-30 phr
- Urethane Rubber - 20-30 phr
- HIPS- 15-30 phr

#### PACKAGING: 50 pound net weight bags

wol – 7/07, t-akroclor cfr-25 and cfr-515

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