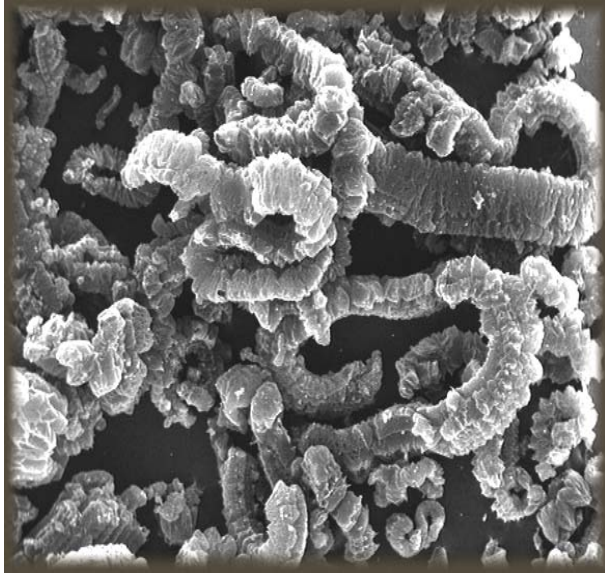




Expandable Graphite for Fire Suppression



Graphite is a very unique material which has a structure consisting of hexagonal carbon rings bonded together to form large planar layers. These layers are held together by weak interlayer bonds which cleave easily, giving graphite its superior lubricity. This layering and weak bonding also make it an ideal material for intercalation, the introduction of atoms or molecules between the layers. Sulfuric and nitric acid are the most common of these intercalants. When heated these compounds create pressure which then exfoliates or expands the graphite layers. The many advantages of expandable graphite make it an excellent choice of additives for use in fire retardant applications.

“Benefits of Expandable Graphite as a Fire Retardant”

- ✓ Excellent char formation
- ✓ Halogen free
- ✓ Superior heat diffusion
- ✓ Displacement of combustible gases
- ✓ Low cost

Typical Properties

	3772	1721	3721	1722	3570	1395	3626	3494	3538
Nominal size (US sieve)	20 x 50	20 x 50	20 x 50	20 x 50	20 x 100	20 x 100	60 x 200	70 x 200	100 x 0
Expansion Ratio (cc/g)	290:1	290:1	275:1	275:1	245:1	250:1	150:1	95:1	50:1
Moisture (%)	0.50	0.92	0.40	0.35	0.42	0.84	0.74	0.90	1.42
Sulfur (%)	3.50	3.52	3.25	3.12	2.85	2.60	2.27	2.76	2.68
Carbon (%)	99.50	99.10	96.9	96.10	91.60	91.90	92.20	88.70	89.30
Ash (%)	0.50	0.90	3.10	3.90	8.40	8.10	7.80	11.30	10.70
pH Range	5-10	1-6	5-10	1-6	5-10	1-6	5-10	1-6	5-9



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