

## FIRE SUPPRESSING GEL

CFEES has indigenously developed environment friendly Fire Suppressing Gel (FSG) which is a polymer-based mixture containing fire retardant inorganic material with swelling property in water. It sticks on burning objects, prevents the water from running off or evaporating too quickly. By using FSG the extinguishment time and requirement of water quantity is reduced and effectiveness of the applied water is increased by many times. Also laying of FSG lanes may prevent further spreading of fire.

High water absorbing FSG is synthesized by neutralizing acrylic acid. After neutralization cross linker is added followed by addition of initiator. At suitable temperature polymerization reaction initiates via free radical polymerization leading to the formation of cross-linked sodium polyacrylate gel. Dried gel is then processed by grinding and mixing inorganic fillers.

### Technical specifications:

- i. Particle size range : less than 1 mm
- ii. Application quantity : 0.6 % (w/v) of total water
- iii. Water holding capacity : 200-400 g distilled water / g of FSG  
100-200 g tap water/ g of FSG

### Performance Parameters:

- i. Reduction in fire extinguishing time : 50 %
- ii. Reduction in water requirement : 50 %
- iii. Shelf life : 5 years

### DRY FSG MATERIAL & FSG (0.6 %) IN WATER

