

*Applicable in environments  
where fire safety is crucial*

*Additives slow  
down ignition*

*Various market  
applications*



# BRINGING LIFE to plastics

Most plastics are made from hydrocarbon-based polymers, which ignite easily and allow fire to spread rapidly. Once ignited, they can release toxic smoke and gases, increasing the danger. Plastics are used in electronics, furniture, transportation, construction and packaging - frequently in environments where fire safety is crucial.

Flame-retardant additives **slow down ignition** and provide more time for people to escape in case of fire.

At Gabriel-Chemie, we are leader in 4 market applications:

Stadium Seats

Electrical

Films

Foams

## Stadium Seats

### Challenges:

High fire risk in large public venues, stringent safety regulations, outdoor exposure

### Our Solutions:

- Halogen-free flame-retardant additives tailored for PP, PA6 and rPP
- Compliance with international fire safety standards (DIN 4102, UL94, NFP 92-512, EN 13501, UNI 9174, BS 476)
- Benefits: durability, aesthetics, no limits in colouring
- More than 100 colours already available

### Applications:

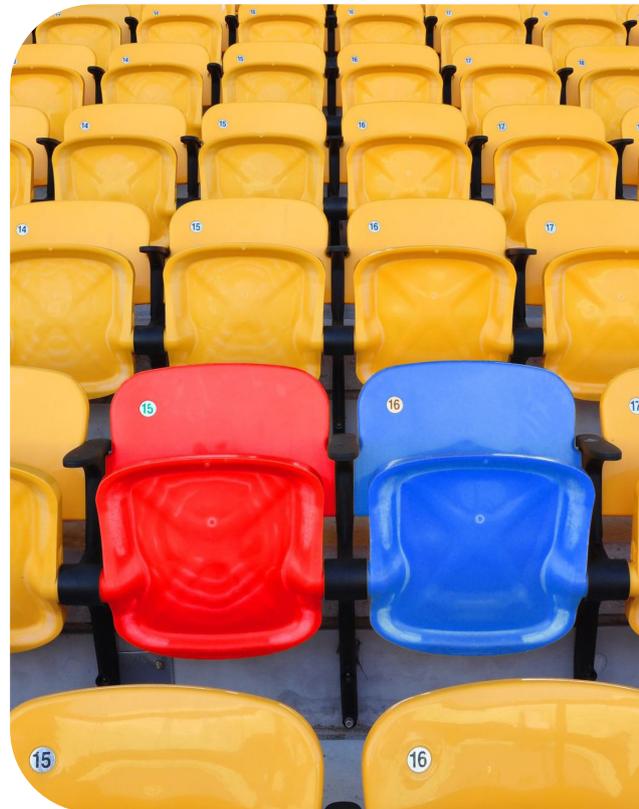
Public stadium seating, arenas, auditoriums, furniture

Polymer	%
PP	5;6;10%
PA6	15%
rPP	15%

PP

PA6

rPP



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## Electrical Challenges:

PP

PA6

PA12

Preventing ignition in electrical devices and wiring

## Our Solutions:

- Halogen-free flame-retardant additives tailored for corrugated and smooth pipes in PP, PA6 and PA12
- Halogen-free and Antimony Trioxide-free solutions for connectors and housings
- Halogen-free solutions for microducts in HDPE for telecommunication
- Compliance with international fire safety standards (UL94, EN 61386, EN 13501, Glow Wire Test)
- Benefits: durable electrical performances, strong aesthetics, low impact on mechanical properties
- Possibility to colour and add proper UV stabilization
- Possibility to add laser marking additives

## Applications:

Electrical conduits, micro-conduits for telecommunication, housings, connectors



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## Foams

### Challenges:

Flammability of polymer foams used in insulation

### Our Solutions:

- Masterbatch suitable for PE, PP and PS foams
- Full range of products: halogenated solutions, Antimony Trioxide-free solutions and halogen-free solutions
- Excellent thermal insulation
- Meets international fire safety standard as EN 13501
- Lightweight and flexible

### Applications:

Insulation panels, residential/commercial/industrial HVAC insulation



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## Films



### Challenges:

Thin polymer films prone to rapid flame spread

### Our Solutions:

- Masterbatch suitable PE and PP films
- Compliance with DIN 4102 and IEC standards
- Flame-retardant masterbatch performance without compromising flexibility
- Full range of products: halogenated solutions, Antimony Trioxide-free solutions and halogen-free solutions
- Suitable for transparent and opaque film applications

### Applications:

Battery separators, flexible electronics, packaging

