

# Gemini<sup>®</sup> PFPE Melt Compounding Polymer Additive

## POA Series

### Introduction:

POA series are additives for polymer melt compounding, it based on PFPE, so they are colorless, odorless, chemically inert and nonflammable. POA also have color, UV and thermal stability.

POA added to plastics and elastomers, can improve processing of polymers. POA internally lubricate to improve flow properties, processibility, throughput, uniform mixing / dispersion, physical properties, tensile properties, gloss, surface lubricity and reduce squeak, noise, it provides many advantages over other process aids. POA improve properties of both thermoplastic and thermoset polymers by increasing wear and flex fatigue resistance and making parts last longer. POA eliminate marring and scratching of polymer surfaces such as SEBS and TPU etc. In actual polymer melt compounding process, POA can improve mold release efficiency, extruding speed and reduce mold clogging.

POA-13 is based on low molecular weight oil and primarily used as a process aid, it should be used below 177°C. POA-48 is used for enhancing product performance and providing processing benefits, in some occasion, it can be processed at temp as high as 360°C. POA-49 is purified oil and primarily used for medical devices and tubular materials.

### Typical Properties:

POA Oil Grades	POA-13	POA-48	POA-49
Appearance	Clear Liquid	Clear Liquid	Clear Liquid
Average Molecular Weight	1375	4800	4950
Viscosity ,@50°C, cSt	5	101	107
Volatility ,@121°C, 22hr	-	<0.8 %	<0.8 %
Density ,@23°C, g/mL	1.9	1.9	1.9
Surface Tension ,@26°C, dyn/cm	18	18	18
Refractive Index ,nD25	1.3	1.3	1.3
Pour Point ,°C	<-70	<-36	<-36

### Compound Processing:

Polymers with POA can be processed in conventional thermoplastic processing equipment, before processing, equipment must be thoroughly cleaned and purged. The recommended loading of POA is 0.1%~2%, depending on base polymer matrix and final performance needs. By compounding with thermoplastic polymers, we suggest using twin-screw extruder with liquid injection capability. For thermosetting polymers, you can follow normal mixing procedures.

### Recommended Applications:

POA series have been widely used in industries like automotive, aviation, medical device, semiconductor, film etc.

Polymer gears, bushings

Auto weather stripping and interiors

Shoes soles, cleats

Polymer films

O ring, seals

Cable liners, tubular materials

Medical devices, electronic devices, food machines fittings

Processing aids

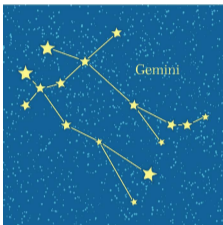
**Compatible Materials:**

HDPE、PC、PP、PEI、PES  
Nylon 6、Nylon 12  
PPS、PSO、PEEK

**Attentions:**

- . During processing, wear protection clothes, be careful of eye、skin contact.
- . Keep the container sealed and store in cool、well ventilated locations.

**Packaging/Transport:** 5Kg,20Kg,50Kg plastic jug. Not classified as dangerous in the meaning of transport regulations.



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