

**HYDROCEROL™
AND EXCELITE™**
CHEMICAL FOAMING AGENTS

Hydrocerol™ and Excelite™ Chemical Foaming Agents (CFAs) are used across a wide range of polymers and applications. Available in masterbatch pellets, powder form or liquid, they utilize endothermic, exothermic or an endothermic/exothermic blend of chemistries to fit the required applications.

CFAs can be used to improve production efficiencies and preserve aesthetic appeal. They are commonly used for:

- Weight reduction/cost savings
- Sink mark removal
- Shrinkage and warpage reduction
- Nucleation
- Assisting direct gas foaming

NOTE:

Low gas yield products are optimized for assisting direct gas injection, nucleation, warpage reduction and sink mark removal. Moderate and high gas yield products are optimized for weight reduction, warpage reduction and sink mark removal. Chemistries and gas initiation temperatures are available for a wide range of resins.

These charts include details for standard CFA products. A number of CFA concentrations can be tailored to processing requirements, feeder capabilities, gas yield optimizations, and cost optimization. Customized formulations can include additional additives to modify properties such as surface appearance, bubble size, or slip and release properties.

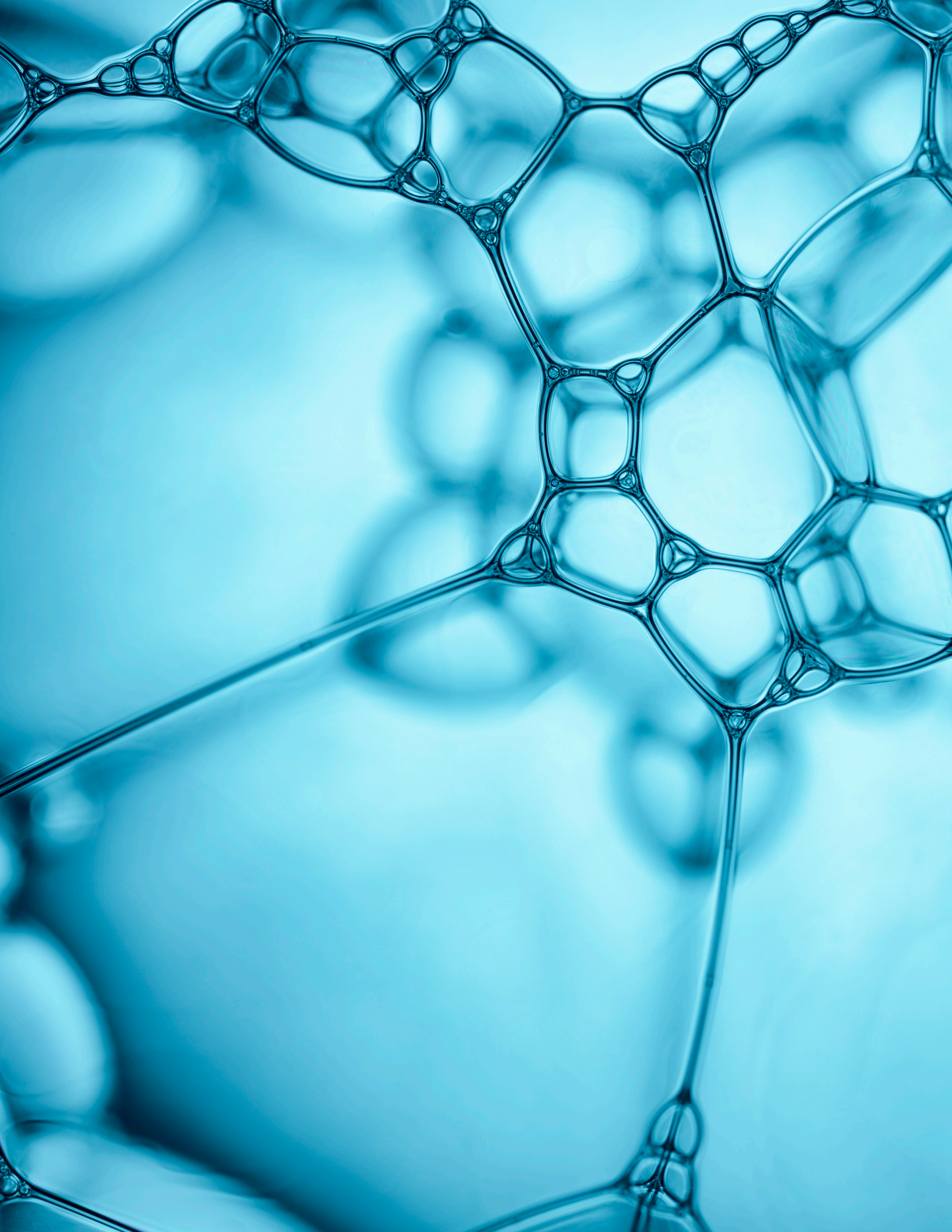


Product Name	Material/Product Code	Type	Initiation Temp, C	Optimum Gas Yield Temp, C	Gas Yield Range, cc/g	Uses/Applications	Usage Resins
POWDER							
Hydrocerol BIH	PEAUFF	Endo	140	160	140-150	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warpage reduction 	EVA, polyethylene, PE copolymers, TPEs/TPOs, PVC
Hydrocerol Compound	EMASAD	Endo	140	200	135-145	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warpage reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM, PVC
Hydrocerol HK	EMA0766025	Endo	200	210	135-145	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warpage reduction 	Polypropylene, styrenes, acrylics, polyamides
Hydrocerol 1480	EMA0766027	Endo-Exo	140	180	240-259	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warpage reduction 	EVA, polyethylenes, PE copolymers, TPEs/TPOs, styrenes, acrylics, PVC

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MASTERBATCH							
Hydrocerol 862	PLASAD	Endo	140	160	10–20	<ul style="list-style-type: none"> • Sink mark removal • Warp page reduction 	EVA, polyethylene, PE copolymers, TPOs/TPEs
Hydrocerol BIH-40-E	PLASAF	Endo	140	160	55–65	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	EVA, polyethylene, PE copolymers, TPOs/TPEs
Hydrocerol 1004	PEAUFQ	Endo	140	160	80–90	<ul style="list-style-type: none"> • Weight reduction 	EVA, polyethylene, PE copolymers, TPOs/TPEs
Hydrocerol CF-5-E	PEASCF	Endo	140	200	5–10	<ul style="list-style-type: none"> • Sink mark removal • Warp page reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM
Hydrocerol 1602	PRASAD	Endo	140	200	50–60	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM
Hydrocerol PEA0820021	PEA0820021	Endo	140	200	25–35	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Styrenes
Hydrocerol PEA0820095	PEA0820095	Endo-Exo	140	180	100–120	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	PVC
Hydrocerol ITP-820	PRAN698588	Endo	200	210	5–10	<ul style="list-style-type: none"> • Sink mark removal • Warp page reduction 	EVA, polyethylene, PE copolymers, TPEs/TPOs, PVC
Hydrocerol HK-40-E	PLASAH	Endo	200	210	55–65	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM, PVC
Hydrocerol CT-3205-B	OMA0698633	Endo	200	210	50–60	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	PLA
Hydrocerol 1135	PEAN698616	Exo	170	190	20–30	<ul style="list-style-type: none"> • Sink mark removal • Warp page reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM
Hydrocerol 8418M	PHA0698418	Exo	170	190	50–60	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polyethylene, polypropylene, TPEs/TPOs, styrenes, acrylics, TPUs, POM

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MASTERBATCH							
Hydrocerol 141	PEASCH	Exo	200	210	10-20	<ul style="list-style-type: none"> • Sink mark removal • Warp page reduction 	Polypropylene, styrenes, acrylics, polyamides
Hydrocerol 1191	PRAN698433	Exo	200	210	55-65	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polypropylene, styrenes, acrylics, polyamides
Hydrocerol NBA0820012	NBA0820012	Exo	240	260	25-35	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polyesters, high-temperature resins
Hydrocerol XH-901	SAASCC	Exo	240	260	30-40	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polycarbonate blends, polycarbonate, high-temperature resins
Hydrocerol 1376-4	PRAN698541	Endo-Exo	200	210	90-100	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal • Warp page reduction 	Polypropylene, styrenes, acrylics, polyamides, PVC

LIQUID							
Excelite FA-37	CC10212522	Endo-Exo	120	140	65-75	<ul style="list-style-type: none"> • Weight reduction/WPC 	Polyethylene
Excelite PF-1	CC01053625	Endo-Exo	120	140	55-65	<ul style="list-style-type: none"> • Weight reduction 	Vinyl
Excelite FA-185	CC10303252	Endo	140	200	75-85	<ul style="list-style-type: none"> • Weight reduction • Direct gas assist 	Polyolefin
Excelite Foam PPRO	CC10250288	Endo	160	200	50-60	<ul style="list-style-type: none"> • Weight reduction • Warp page reduction 	Polypropylene
Excelite FA-77	CC10232527	Endo-Exo	120	140	85-95	<ul style="list-style-type: none"> • Weight reduction/WPC 	Polyethylene
Excelite FA-108	CC10290626	Endo	180	200	55-65	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal 	Polyolefin
Excelite FA-112	CC10313065	Endo	140	200	50-60	<ul style="list-style-type: none"> • Weight reduction • Sink mark removal 	Polyolefin





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