UNICELL-C Series

- Surface coated Citric acid and Sodium bicarbonate
- Specially Designed Foaming Agents for cellular plastics

Description

UNICELL-C series, a group of inorganic compounds, is well known as effective foaming and nucleating agent for plastics such as PS, ABS, PE, PP and modified PPO.
Usual foaming agents are exothermic systems which liberate large amounts of heat during decomposition. This ordinarily leads to irregular cell structure and local overheating especially in the marginal zones. Contrary to most foaming agents, **UNICELL-C** series has endothermic decomposition characteristics.
UNICELL-C series is white, odorless, non-toxic and free-flowing powder and releases carbon dioxide and water vapor during thermal decomposition. It gives no incrustation against screw and hopper, allowing extruder to operate for a long time before cleaning is necessary.
All ingredients of **UNICELL-C** series meet FDA regulations and can be used for food stuffs.

Properties of UNICELL-C series

Item	Specification							
Grade Name	C#850	C#309	C#129	C#709	C#850MT	C#709MT	DX820	DX920
Chemical Name	Specially coated sodium bicarbonate				Masterbatch types of C#grades		Modified sodium bicarbonate	
Appearance	Fine White Powder				White pellet		Pale Yellow Powder	
Decomposition Temperature (℃)	150~220	155~165	155~165	155~165	150~220	155~165	150~180	140~170
Gas Volume (ml/g, at 25℃)	110~130	140~160	140~160	140~160	35~45	45~50	120~160	110~150
Average Particle Size (㎛)	5.2~6.2	6.0~7.0	6.0~7.0	6.0~7.0	-	-	-	-
Solubility (g sample/100ml solvent)	Soluble in water and insoluble in organic solvents							

Decomposition of UNICELL-C series

UNICELL-C series is decomposed endothermically. The decomposition range is 150~220℃.
The use of activators is neither necessary nor possible. Decomposition only depends on the quantity of heat and processing condition, e.g. friction and pressure.
It does not produce any ammonia odor but evolve only carbon dioxide and water vapor. And it only leaves white decomposition residue.

Applications

UNICELL-C series allows smaller cells with regular distribution (by nucleating effect) and smooth surface (easy lacquer coating) than Azodicarbonamide. It is free from discoloring troubles.
UNICELL-C series can be used in both extrusion and injection molding system. The recommended dosage level is 0.2~1.0% by weight. In practical usages, the processing temperature of 180~230℃ is suitable.
UNICELL-C series can be also widely used as a nucleating agent to directly gas thermoplastics such as Polyolefines, Polystyrene, EVA and PVC using freon, pentane, butane, nitrogen and carbon dioxide.
It will nucleate the high pressure gases into fine cellular structure in many different thermoplatics such as PS, ABS, PE, PP, and modified PPO by the processes of injection and extrusion system.