

UNICELL-BSH Series

Description

UNICELL-BSH series, the trade name of benzenesulfonylhydrazide, can produce cellular foams that are non-discoloring and free of objectionable odors.

UNICELL-BSH series is designed for open or closed cellular rubbers with regular and fine cell structures. It delivers excellent performance without activators at conventional curing temperatures.

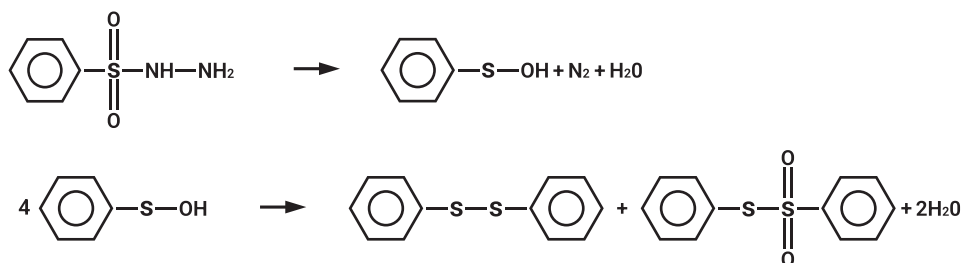
UNICELL-BSH series is especially recommended for materials that shrink when exposed to light or heat.

Properties of UNICELL-BSH series

Item	Specification	
Grade Name	BSH	BSHNE
Chemical Name	Benzenesulfonylhydrazide	
Appearance	Fine White Powder	
Decomposition Temperature (°C)	143~147	142~146
Gas Volume (ml/g, at 25°C)	100~110	98~108
Average Particle Size (µm)	3.0~4.0	3.0~4.0
Moisture Content (%)	0.5 max.	0.5 max.
Specific Gravity	1.48	
Molecular Weight	172.2	
Solubility (g sample/100ml solvent, at 20°C)	Water: 0.49 Toluene: 0.35 Alcohol: 5.10 DMSO: fairly soluble	
CAS No.	80 - 17 - 1	

Decomposition of UNICELL-BSH series

One possible decomposition mechanism of **UNICELL-BSH** is:



When heated, **UNICELL-BSH** decomposes into N_2 gas and H_2O , with benzenesulfonic acid formed as an unstable intermediate. The unstable benzenesulfonic acid then immediately converts into dibenzyl disulfide and phenyl benzenethiosulfonate. The sulfur-containing residues can function as curing agents in rubber compositions.

*Benzenesulfonylhydrazide

*Specially designed foaming agents for white cellular rubbers

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Applications

The decomposition rate of **UNICELL-BSH** series is suitable for low processing temperatures without the need for decomposition activators.

Careful control of processing conditions is required when using **UNICELL-BSH** series to avoid reduced foaming efficiency.

During the foaming process, **UNICELL-BSH** series exhibits significant cure activation; therefore, secondary accelerators are generally not required.

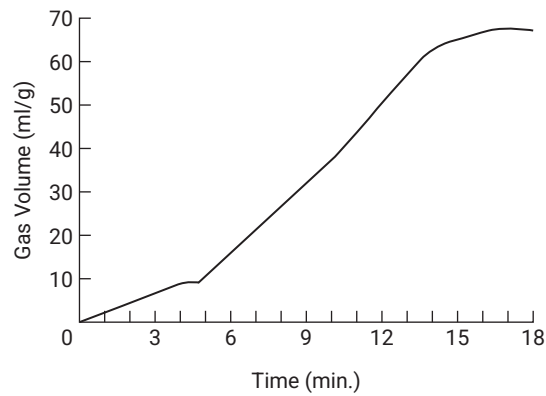


Fig. The decomposition behavior of **UNICELL-BSH** series at a constant temperature of 150°C.
