

SBR 1006 and SBR 1011AC elastomers

Balance of properties in pressure-sensitive adhesives

Produced with Lion Elastomers' excellent and consistent manufacturing processes, SBR 1006 and SBR 1011AC elastomers are often combined with natural rubber to make solvent-based adhesives for masking tapes, labels, cloth tapes and duct tape. Offering cost-effective tack, shear and peel strength performance where UV resistance is not required, they are manufactured with a consistent molecular weight, Mooney and solution viscosity, enabling formulators to achieve a consistent pressure-sensitive adhesive (PSA) formulation.

SBR 1006 and SBR 1011AC linear, non-crosslinked elastomers are the products of choice when a good balance of adhesion, cohesion and tack is required. These light-colored, low-gel elastomers are suitable for general-purpose pressure-sensitive adhesives or as laminating adhesives. SBR 1011AC is produced via hot emulsion polymerization using a rosin acid. The combination of a broad molecular weight distribution and rosin acid emulsifier makes it an excellent base polymer for PSA applications. Similar to that, SBR 1006 is emulsified in fatty acid and serves as a good elastomer for general-purpose pressure-sensitive or laminating adhesives. It can also be used in caulking and sealing compounds.

APPLICATIONS

- *Tape adhesives*
- *General adhesives*
- *Labels*
- *Pressure sensitive adhesives*

A GREENER ALTERNATIVE

It is possible to replace toluene with zero-VOC, HAP-free solvents in formulations containing non-crosslinked SBRs such as SBR 1006 and 1011AC elastomers in adhesive and sealant applications.



BENEFITS

- *High quality and consistency*
- *Cost-effective tack, shear and peel strength*
- *Good balance of performance properties*
- *Ideal for tapes and labels*
- *Excellent polymer choice for PSA applications*
- *Can be combined with natural rubber to offset its softening over time*

SBR 1006 and SBR 1011AC elastomers

Linear, non-crosslinked styrene butadiene rubber

TYPICAL PROPERTIES

SBR 1006

Emulsifier:	Fatty acid
Stabilizer:	Non-staining
Coagulants:	Acid
% of bound styrene:	23.5

SBR 1011AC

Emulsifier:	Rosin acid
Stabilizer:	Non-staining
Coagulants:	Acid
% of bound styrene:	23.5

SBR 1006 formulation

Pressure-sensitive adhesive	
Ingredients, PHR	
SBR 1006	100
Pentalyn H	100
Irganox 1520	2
Toluene	100
Heptanes	900
Total	1202
% Solids	16.81
Brookfield Viscosity cP	135
PSTC 180° Peel, lbs/in	7
Loop Tack-PSTC 16A, lb/in	1.92

SBR 1011AC formulation

Pressure-sensitive adhesive	
Ingredients, PHR	
SBR 1011	100
Zonatac NG98	100
Irganox 1520	2
Toluene	100
Heptanes	900
Total	1202
% Solids	16.81
Brookfield Viscosity cP	95
PSTC 180° Peel, lbs/in	4.06
Loop Tack-PSTC 16A, lb/in	2.83

Viscosity of SBR 1006 in various solvents (cP) at room temperature

	Toluene	Xylene	CycHex	Hexane	Heptane	Benzine ³	IBIB ²	TBAc ¹
5%	70	72	58	6	12	30	44	26
7.5%	236	246	188	12	26	104	134	114
10%	814	808	570	76	88	314	626	484
12.5%	2435	2250	1680	218	280	912	1960	1750
15%	6010	5550	3980	630	804	2420	5360	5120

Viscosity of SBR 1011AC elastomer in various solvents (cP) at room temperature

	Toluene	Xylene	CycHex	Hexane	Heptane	Benzine ³	IBIB ²	TBAc ¹
5%	54	62	52	14	16	30	44	32
7.5%	182	196	164	26	34	86	148	128
10%	552	632	490	74	102	226	520	524
12.5%	1592	1744	1360	230	312	766	1530	1428

¹ TBAc = Tertiary Butyl Acetate

² IBIB = Isobutyl Isobutyrate

³ Benzine = Petroleum Distillate

FOR MORE INFORMATION

Contact your Lion Elastomers Account Representative or Technical Service, or visit www.lionelastomers.com.

