CLAIMS

1. A composition comprising:

~~about 5~~ 60 parts per hundred parts rubber (phr) to ~~about 95~~ 90 phr of a halobutyl rubber; and

~~about 5~~ 10 phr to ~~about 95~~ 40 phr of an elastomer composition,

wherein the halobutyl rubber comprises a halogenated isobutylene-isoprene copolymer,

wherein the elastomer composition comprises a copolymer comprising:

a C_4 to C_7 isoolefin;

a non-halogenated alkylstyrene; and

a halogenated alkylstyrene,

wherein the non-halogenated alkylstyrene and the halogenated alkylstyrene cumulatively are present in the elastomer composition in the amount of ~~about~~ 3 wt% to ~~about~~ 15 wt% based on the elastomer composition; and

wherein the halogenated alkylstyrene is present at from 0.1 mol% to 2 mol% relative to the non-halogenated alkylstyrene.

2. The composition of claim 1, wherein the elastomer composition further comprises:

a diolefin, wherein the C_4 to C_7 isoolefin is not the same as the diolefin.

3. The composition of claim 2, wherein the diolefin is isoprene, butadiene, cyclopentadiene, or combinations thereof.

4. The composition of claims 2-3, wherein the diolefin is present in the elastomer composition in the amount of less than or equal to ~~about~~ 10 wt% based on the elastomer composition.

5. The composition of any preceding claim, wherein the C_4 to C_7 isoolefin is halogenated.

~~6. The composition of any preceding claim, wherein the C_4 to C_7 isoolefin is halogenated with bromine.~~

~~7.~~6. The composition of any preceding claim, wherein the non-halogenated alkylstyrene is p-methylstyrene.

~~8. The composition of any preceding claim, wherein the elastomer composition is present at about 70 phr to about 95 phr, and wherein the halobutyl rubber is present at about 5 phr to about 30 phr.~~

~~9.~~7. The composition of any preceding claim, wherein the composition has a glass transition temperature of ~~about -~~39 ºC to ~~about -~~32 ºC

~~10. The composition of any preceding claim, wherein the halobutyl rubber is selected from the group consisting of: bromobutyl rubber, chlorobutyl rubber, and combinations thereof.~~

~~11. The composition of any preceding claim, wherein the halobutyl rubber is selected from the group consisting of: brominated isobutylene isoprene rubber, chlorinated isobutylene isoprene rubber, brominated isobutylene co p methylstyrene copolymer, and combinations thereof.~~

~~12.~~8. The composition of any preceding claim further comprising:

processing aid;

curative; and

filler.

~~13.~~9. A process to make the composition of ~~any preceding claim~~ claims 1-8, comprising the steps of:

a. polymerizing in a first reactor the C_4 to C_7 isoolefin, the non-halogenated alkylstyrene, the halogenated alkylstyrene, optionally the diolefin, and optionally the isobutylene-p-methylstyrene to produce the elastomer composition;

b. polymerizing in a second reactor monomers of the halobutyl rubber to produce the halobutyl rubber; and

~~c. combining product streams from the first and second reactors to produce a blend; and~~

~~d.~~c. optionally combining the ~~blend with~~ elastomer composition, the halobutyl rubber, optionally the processing aid, optionally the curative, and optionally the filler.

~~14. A process to make the composition of claims 1-12, comprising the steps of:~~

~~a. polymerizing in a first reactor the C_4 to C_7 isoolefin, the non-halogenated alkylstyrene, the halogenated alkylstyrene, optionally the diolefin, and optionally the isobutylene-p-methylstyrene to produce the elastomer composition;~~

~~b. polymerizing in a second reactor monomers of the halobutyl rubber to produce the halobutyl rubber; and~~

~~c. optionally combining the elastomer composition, the halobutyl rubber, optionally the processing aid, optionally the curative, and optionally the filler.~~

~~15. The composition of claim 12, wherein the filler is carbon black and present at about 20 to about 100 phr.~~

~~16. The composition of claim 12, wherein the filler is clay and present at about 1 to about 30 phr.~~

~~17. An article comprising the composition of any one of claims 1-12 or 15-16.~~

~~18. A tire innerliner comprising the composition of any one of claims 1-12 or 15-16.~~

~~19. A tire comprising the tire innerliner of claim 18.~~