CLAIMS

1. A stabilizer composition for halogen-containing polymers, the stabilizer composition comprising at least two tin-based centers, and at least one bridging alkyl group between the at least two tin-based centers wherein the bridging alkyl group is tin-bound and where the bridging alkyl group is not active in the stabilization process and is effective in increasing the molecular weight of the stabilizer composition, wherein the stabilizer composition is of a type $L_3Sn\text{-}X\text{-}SnL_3$ or $L_2Sn\text{-}(X)(Y)\text{-}SnL_2$, wherein L is a ligand chosen from the group consisting of esters of thioglycolic acid, 2-ME esters of C12-C18 fatty acids, carboxylates, maleates, sulfides, 2-ME, mercaptans, and a blend thereof, and

wherein X and Y are tin-terminated, alkyl bridging groups.

2. The stabilizer composition of claim 1 wherein X and/or Y are linear or branched, saturated or unsaturated, with or without heteroatoms, with or without heterocycles, where the alkyl-based bridging group is C1 to C80.

3. A thermal stabilizer composition for halogen containing polymers, the composition comprising at least three repeating units of $–[SnL_2\text{-}X\text{-}]_n$;

wherein X is a tin-terminated alkyl-based bridging group; and,

wherein L is a ligand chosen from the group consisting of esters of thioglycolic acid, 2-ME esters of C12-C18 fatty acids, carboxylates, maleates, sulfides, 2-ME, mercaptans, and a blend thereof;

wherein said bridging alkyl groups are not active in the stabilization process thereby they effectively increase the molecular weight of said stabilizer composition.

4. The thermal stabilizer of claim 3 wherein X is linear or branched, saturated or unsaturated, with or without heteroatoms, with or without heterocycles, where alkyl bridge is C1 to C80.

5. A composition of PVC, CPVC or a blend thereof, the composition comprising a stabilizer, the stabilizer comprising:

at least two tin-based centers; and,

at least one bridging alkyl group between the at least two tin-based centers.

6. The composition of claim 5, wherein the stabilizer is of the type $L_3Sn\text{-}X\text{-}SnL_3$, wherein L is chosen from the group consisting of an ester of thioglycolic acid, a 2-ME ester of C12-C18 fatty acids, a carboxylate, a maleate, a sulfide, 2-ME, a mercaptan, and any combination of two or more of an ester of thioglycolic acid, a 2-ME ester of C12-C18 fatty acids, a carboxylate, a

maleate, a sulfide, 2-ME, and a mercaptan, and

wherein X is a tin terminated alkyl bridging group.

7. A composition of PVC, CPVC or a blend thereof, the composition comprising a stabilizer, the stabilizer comprising:

at least two tin-based centers; and,

at least one bridging alkyl group between the at least two tin-based centers wherein the bridging alkyl group is tin-bound, and,

wherein the bridging alkyl group is not active in the stabilization process and is effective in increasing the molecular weight of the stabilizer composition

wherein the stabilizer is of the type $L_2Sn\text{-}(X)(Y)\text{-}SnL_2$

wherein L is chosen from the group consisting of an ester of thioglycolic acid, a 2-ME ester of C12-C18 fatty acids, a carboxylate, a maleate, a sulfide, 2-ME, a mercaptan, and any combination of two or more of an ester of thioglycolic acid, a 2-ME ester of C12-C18 fatty acids, a carboxylate, a maleate, a sulfide, 2-ME, and a mercaptan, and

wherein X and Y are tin terminated alkyl bridging groups.

8. The composition of claims 7 wherein X and Y are linear or branched, saturated or unsaturated, with or without heteroatoms, with or without heterocycles, where alkyl bridge is C1 to C80.