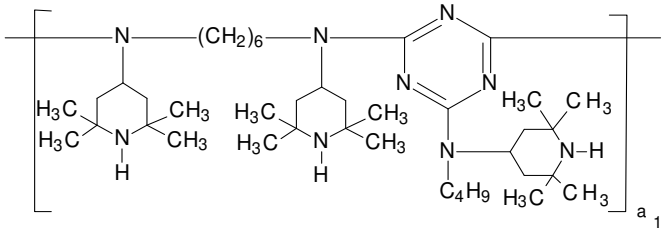
Polyethylene or polypropylene articles

Description

There is provided an article in the form of a pipe, cable or geomembrane comprising polyethylene or polypropylene, and components A) and B), wherein component A) is a hindered amine light stabilizer containing a triazine residue, component B) is magnesium hydroxide which is present in an amount of 0.01% to 5% by weight relative to the weight of the polyethylene or polypropylene, and the weight ratio of component A) to component B) is 1:50 to 50:1, with the proviso that component B) is not a hydrotalcite.

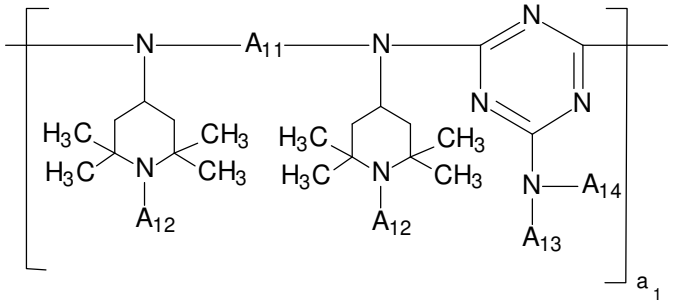
In an aspect, there is provided an article in the form of a pipe, cable or geomembrane comprising polyethylene or polypropylene, and components A), B), C) and D), wherein component A) is a compound of formula (A-I-1)



(A-I-1)

with a_1 being 2 to 10, component B) is magnesium hydroxide which is present in an amount of 0.01% to 5% by weight relative to the weight of the polyethylene or polypropylene, component C) is 1,3,5-tris(3,5-di-tert-butyl-4-hydroxybenzyl)-2,4,6-trimethylbenzene, and component D) is tris[2,4-di-tert-butylphenyl]phosphite, and the weight ratio of component A) to component B) is 1:50 to 50:1, with the proviso that component B) is not a hydrotalcite.

Component A) is in particular at least one compound of the formula (A-I), (A-II) or (A-III)

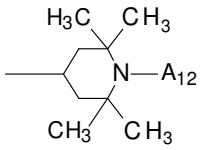


(A-I)

wherein A_{11} is C_2-C_{18}alkylene, C_5-C_7cycloalkylene or C_1-C_4alkylenedi-(C_5-C_7cycloalkylene),

the radicals A_{12} independently of one another are hydrogen, C_1-C_{12}alkyl or C_5-C_{12}cycloalkyl,

A_{13} and A_{14} independently of one another are hydrogen, C_1-C_{12}alkyl, C_5-C_{12}cycloalkyl or a group of the formula (a-1),

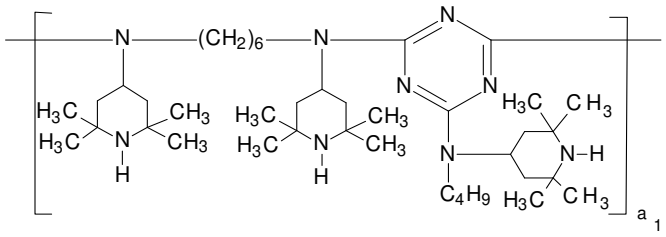


(a-1)

or the radicals A_{13} and A_{14}, together with the nitrogen atom to which they are bonded, form a 5- to 10-membered heterocyclic ring and

Claims:

1. An article in the form of a pipe, cable or geomembrane comprising polyethylene or polypropylene, and components A), B), C) and D), wherein component A) is a compound of formula (A-I-1)



(A-I-1)

with a_1 being 2 to 10, component B) is magnesium hydroxide which is present in an amount of 0.01% to 5% by weight relative to the weight of the polyethylene or polypropylene, component C) is 1,3,5-tris(3,5-di-tert-butyl-4-hydroxybenzyl)-2,4,6-trimethylbenzene, and component D) is tris[2,4-di-tert-butylphenyl]phosphite, and the weight ratio of component A) to component B) is 1:50 to 50:1, with the proviso that component B) is not a hydrotalcite.

2. An article according to claim 1, wherein Component B) has a mean particle size of 0.2 to 10 micrometres.

3. An article according to any of claims 1 to 2 comprising additionally a hydrotalcite.

4. An article according to any of claims 1 to 3, wherein the weight ratio of component A) to component B) is 1:10 to 10:1.

5. An article according to any of claims 1 to 4 which is in the form of a pipe or geomembrane.

6. An article according to claim 5, which is in contact with oxidizing media.

7. An article according to any of claims 1 to 6 which is in the form of a pipe.

8. An article according to claim 7 which is in contact with chlorinated water.

9. An article according to any of claims 1 to 8 comprising polyethylene.