

tectogreen

root penetration protection solutions

Technical leaflet

Tectogreen P-5

Description

Tectogreen P-5 is an innovative chemical root barrier with a very good ecologically and environmentally-friendly behaviour offering the highest safety standards against root penetration. Tectogreen P-5 ensures root penetration protection for penetration-proof roofing and waterproofing bitumen roof sheeting and their contacting joints. Tectogreen P-5 is also used as a root barrier in bituminous materials and sealing compounds, insulations and asphalt compounds.

Tectogreen P-5 is a root barrier based on the n-octyl ester of a specific quality of the pure biological active optical (R) isomer of 2-(4-chloro-2-methylphenoxy) propionic acid (Mecoprop-P, MCPP). Tectogreen P-5 contains traces only of the biologically inactive (S) isomer. Typically the chiroptic purity of Tectogreen P-5 is above 97%.

Leaching characteristic

Due to the long chain alcohol component, Tectogreen P-5 is practically insoluble in water but shows solubility in bitumen and organic water insoluble solvents. As a result of these properties Tectogreen P-5 has an extremely low leaching potential from elastomer bitumen roof sheeting and bitumen insulations.

Dosage recommendation

Bitumen roof sheeting:

The recommended dosage value of Tectogreen P-5 with a minimum of 4 mm thickness is 0.30 - 0.40 % based on the bitumen weight of the sheet.

0.3 % of Tectogreen P-5 are recommended for light duty application in green roofing, e.g. for extensive greening or where two layers of root protection sheets are used.

0.4 % of Tectogreen P-5 is recommended for heavy duty application in green roofing, e.g. for intensive greening and/or where only one layer of root protection sheet is used.

Bitumen coated EPDM sealing sheeting:

Tectogreen P-5 is also recommended with doses between 0.275 – 0.4% as an anti-rooting agent for bitumen-coated EPDM foils.

Compounds and cold working sealants:

Doses between 0.20 to 0.25 % of Tectogreen P-5 are recommended, depending on the hardness of the compounds.

Bitumen insulation:

The recommended dosage range of Tectogreen P-5 is 0.25 to 0.75 % depending on the different layer thicknesses noted below.

For a layer thickness with a minimum of 3 to 4 mm the reference dosage value is 0.25 % of Tectogreen P-5 based on the total weight of the insulation.

For a layer thickness with a minimum of 2 to 3 mm using pure or high proof bitumen a reference dosage value of 0.4 to 0.5 % based on the bitumen weight is recommended.

For bitumen/sand layers with low bitumen content the recommended dosage of Tectogreen P-5 is 0.65 to 0.75 % based on the bitumen content.

Light-duty road construction and embankment construction:

The recommended dosage of Tectogreen P-5 for light duty bitumen roads and embankments is 0.65 – 0.9 % based on the bitumen content.

Safety and operational relevant data

Flash point: >175° C

Ignition temperatur: >300° C

Decomposition: At 240° C for 8 h no remarkable decomposition is detected.

All precautions of the current material safety data sheet must be observed. The use of Tectogreen P-5 may be regulated by relevant national authorities. The responsibility of complying with all statutory provisions lies with the user of Tectogreen P-5.

Operating temperature

200° C with maximum peak temperatures of 250° C are recommended.

Chemical and physical identification and properties

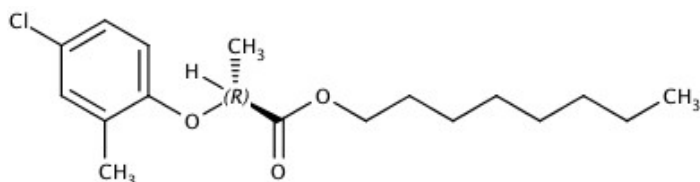
Common name: Mecoprop-P-*n*-octyl

Chemical name IUPAC: octyl(*R*)-2-(4-chloro-*o*-tolylloxy)propionate

Chemical name CAS: octyl(2*R*)-2-(4-chloro-2-methylphenoxy)propanoate

Formula: C₁₈H₂₇ClO₃

Structure:



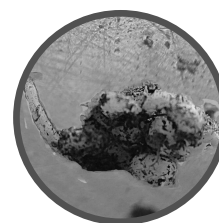
Appearance: brown, clear liquid with specific odour

Density: 1,04 g/ml

Solubility: insoluble in water, soluble in various organic solvents

Biochemistry and mode of action

Tectogreen P-5 is a systemic, auxin-type herbicide. It is absorbed by the roots and concentrates in the meristematic region, where it inhibits the growth, and is leading to the formation of small nodules on the root tips thereby preventing them from further growth.



Storage and shelf live

Tectogreen P-5 must be stored in a tightly closed containment in a cool and dry place. Under proper storage conditions the shelf life of Tectogreen P-5 is four years from the date of delivery.