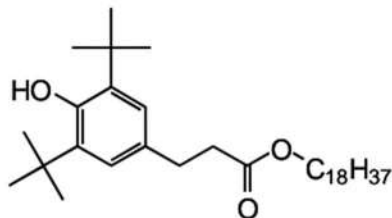


# ADK STAB AO-50 ADK STAB AO-50F

— Phenolic Antioxidant —

## Identification



[CAS Number]  
2082-79-3

[Chemical Name]  
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

[Formula]  
 $C_{35}H_{62}O_3$

[Molecular Weight]  
531

## Features

- Is a hindered phenolic antioxidant which has excellent compatibility with a wide variety of polymers. It also provides excellent resistance to discoloration during/after processing and shows low volatility and excellent retention within the polymer.
- Protects polymers against thermal degradation during/after processing and provides long-term heat stabilization for the life time of the article.
- Shows a synergistic effect on process stability when used with phosphites, and a synergistic effect on long-term heat stability when used with thioethers.
- Approved as an indirect additive in food contact substances in US, EU, and Japan. Potential application is food packaging. (For additional information such as kind of adaptable polymers, please ask our Sales Department.)

## Applications

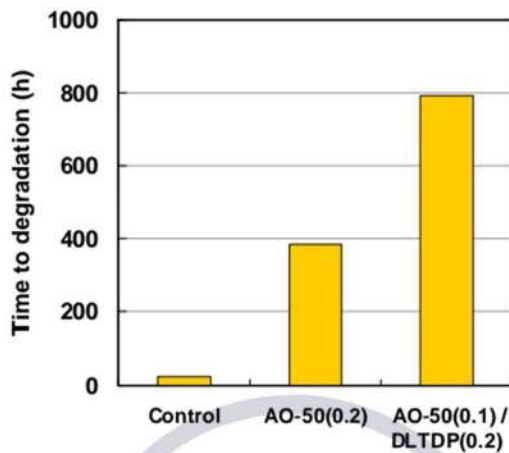
- Polyolefins such as PP and PE.
- Styrene resins such as PS and ABS.
- Engineering plastics such as PA and PC.
- Polyester resins, PVC, and synthetic rubbers, etc.
- Sealants, Adhesives, Coatings, etc.

## Physical and chemical properties

- Appearance AO-50: White powder  
AO-50F: White flake
- Melting point 51- 54 °C
- Thermal stability (TGA, 10°C/min, Air 200ml /min) 10% weight loss temperature: :316°C
- Solubility (g/100g solvent at 25 °C ) Acetone:26 Hexane: 31 Benzene:57  
Methanol:0.6  
(g/l solvent at 25°C ) Water: < 0.1

\* Above value of properties are just typical, not specific

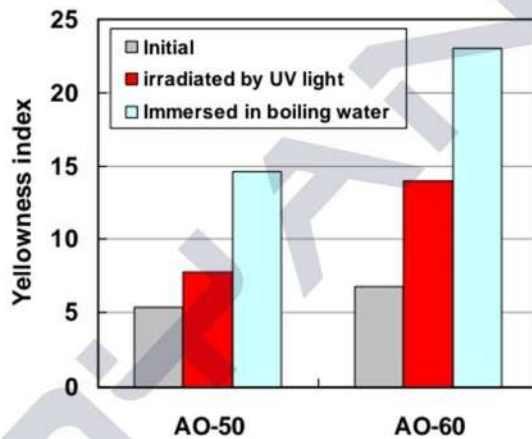
## Performance



**Fig.1 Long-term heat stability of PP at 150°C**

Test: 150°C Oven  
Formulation: PP-h (100)/Ca-St (0.2)/  
AO-50(see graph)/DLTDP(see graph)  
Test plaque: 1mm-thick sheet

\*Control: without antioxidants \*DLTDP: Dilauryl thiodipropionate  
\*AO-60: ADK STAB AO-60 (Phenolic antioxidant)



**Fig.2 Effect on discoloration of PP**

Test: UV Fluorescent for 3days  
Immersion in boiling water for 7days  
Formulation: PP-h(100)/CaSt (0.2)/DLTDP(0.2)/  
Phenolic Antioxidant (0.2)  
Process: Roll mixing, Press at 180°C  
Test plaque: 1mm-thick sheet

## Handling and storage

- Store in the original container securely under cool and dry conditions.
- Protective clothing should be worn when operators are handling, or being exposed to, this product. See the MSDS for further detailed advice.