

# ADK STAB 2112 ADK STAB 2112RG

— Phosphite Antioxidant —

## Identification



[CAS Number]

31570-04-4

[Chemical Name]

Phenol, 2,4-bis(1,1-dimethylethyl)-, phosphite (3:1)

[Formula]

$C_{42}H_{63}O_3P$

[Molecular Weight]

647

## Features

- Is a very common phosphite which has the highest resistance to hydrolysis among commercial phosphites.
- Protects polymers against thermal degradation during processing, which reduces discoloration and prevents the melt flow rate of the polymer from changing and slows the decline in mechanical properties of the polymer.
- Shows a marked synergistic effect when used with phenolic antioxidants.
- 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

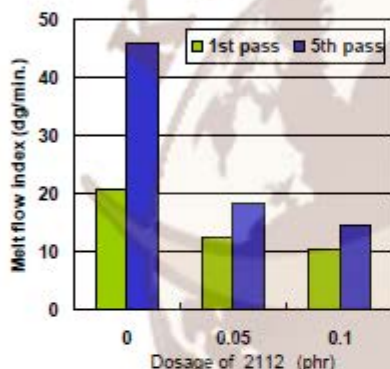
- Polyolefins such as PP and PE
- Styrene resins such as PS and ABS
- Engineering plastics, Elastomers, etc.
- Adhesives, etc.

## Physical and chemical properties

- Appearance 2112: White powder  
2112RG: White granule and powder
- Melting point 180 -190 °C
- Thermal stability (TGA, 10°C/min, Air 200ml /min) 10% weight loss temperature: 265°C
- Solubility (g/100g solvent at 25 °C) Acetone:1.8 n-Hexane: 12.0 Ethanol: < 0.1  
Toluene: 40.5

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

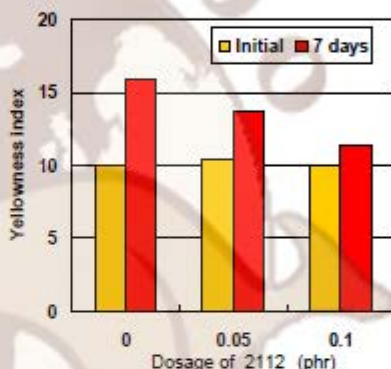
## Performance



**Fig.1 MFR-change (repeated extrusion)**

Test: Extrusion Temp. 280 °C

Formulation: PP-h (100) / Ca-St (0.1) /  
AO-60 (0.05) / 2112 (see graph)



**Fig.2 Discoloration in long-term heat stability test**

Test : 150 °C Oven

Test plaque: 2mm-thickness sheet

Process: Extrusion temp. 280 °C

Injection temp. 250 °C

Formulation: PP-h (100) / Ca-St (0.1) /  
AO-60 (0.05) / 2112 (see graph)

## Handling and storage

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