

# Tris(2,4-ditert-butylphenyl) Phosphite



## PRODUCT IN FOCUS



## Tris(2,4-ditert-butylphenyl) Phosphite

### INTRODUCTION

Tris(2,4-di-tert-butylphenyl) phosphite (TDPP) often recognized commercially as Irgafos 168 is a high-performance organophosphorus compound primarily utilized as secondary antioxidant and processing stabilizer. Its characteristic to undergo metallation reaction and provide a cost-effective synthetic processes allows it to be useful in biaryl coupling reactions. It protects polymers which are prone to oxidation during the processing (comounding/palletizing, fabrication and recycling) from molecular weight change (by Chain scission or crosslinking) and prevents discolouration.

### Manufacture

TDPP is prepared by reacting 2,4-di-tert-butylphenol with phosphorus trichloride (PCl<sub>3</sub>) to form the phosphite ester, followed by purification to obtain Tris(2,4-di-tert-butylphenyl) phosphite.

### Applications

TDPP is primarily used as a secondary antioxidant and processing stabilizer in polymers such as polyethylene, polypropylene, PVC, and engineering plastics. Its versatility across polymer systems enables a wide range of industrial applications, including the following:

- ✔ **Polymer Stabilization**
  - Reliable secondary antioxidant for high-temperature polymer processing of Polypropylene (PP) Polyethylene (HDPE, LDPE, LLDPE) Engineering plastics (ABS, polycarbonate blends)
- ✔ **Polyolefin Processing**
  - Used as a stabilizer in Injection molding, blow molding & extrusion processes
- ✔ **Coatings, Adhesives & Sealants**
  - Used in Industrial coatings Pressure-sensitive adhesives sealant formulations
- ✔ **Rubber & Elastomers**
  - Synthetic rubber processing
  - Automotive rubber parts
- ✔ **Synergistic Use with Primary Antioxidants**
  - Acts as performance multiplier

<b>Synonyms</b>	tris(2,4-di-tert-butylphenyl) phosphite
-----------------	---

<b>CAS no.</b>	31570-04-4
----------------	------------

<b>EINECS no.</b>	250-709-6
-------------------	-----------

<b>Molecular formula</b>	C <sub>42</sub> H <sub>63</sub> O <sub>3</sub> P
--------------------------	--

<b>Molecular Weight</b>	646.9
-------------------------	-------

<b>Structure</b>	
------------------	---

# Tris(2,4-ditert-butylphenyl) Phosphite



## PRODUCT IN FOCUS



### SPECIFICATIONS

Test	Unit	Specification
Appearance	-	White, free flowing powder /granules
Melting range	°C	183 – 186
Density (20°C)	g/ml	1.03
Bulk density	g/l	480 – 570

### Typical Properties

Solubility @ 20°C : Solvents g/100g

Cyclohexane	g/100 g	16
Dichloromethane	g/100 g	36
Toluene	g/100 g	30
Chloroform	g/100 g	36

### PACKING

25kg Bag

### STORAGE

Store at ambient conditions in tightly closed containers and in well ventilated area

### REACH status

EU REACH Registered

ExSyn offers Tris(2,4-di-tert-butylphenyl) phosphite (TDPP) on commercial scales and welcomes enquiries. No matter the quantity you need, our exceptional quality and service will make ExSyn your supplier of choice! If you need any additional information or SDS, please contact us.