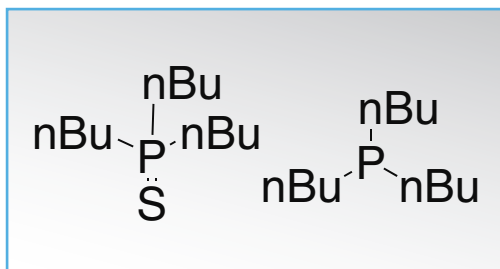


Sold in collaboration with Solvay.

## Tributylphosphine sulfide/tributylphosphine (50:50 mixture), CYTOP® 506

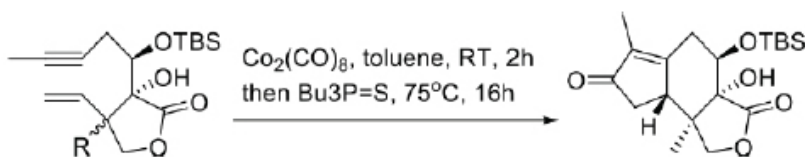


| Product Details   |  |
|-------------------|--|
| Color and Form    | Colorless to amber liquid  |
| Flash Point       | >212°F   |
| CAS No.           | 3084-50-2  |
| Molecular Formula | C <sub>12</sub> H <sub>27</sub> PS/C <sub>12</sub> H <sub>27</sub> P |

**CYTOP® 506**, a blend of tri-n-butylphosphine sulfide (TBuPS) with tributylphosphine is a clear, colorless to yellow corrosive liquid. Its primary application is as a reagent for the manufacture of quantum dots.

### Technical Notes:

1. Tri-n-butylphosphine sulfide has been used as the sulfur source in the synthesis of several types of quantum dots including CdSe/ZnS and CdSe<sub>x</sub>/ZnS core/shell, CdS cores and CdSe<sub>x</sub>S<sub>1-x</sub> core/shell.<sup>1-3</sup>
2. Tri-n-butylphosphine sulfide has also been used to deliver the sulfide to the shell of cadmium-free quantum dots such as ZnSe/ZnS and InP/ZnSe/ZnS.<sup>4-5</sup>
3. Tri-n-butylphosphine sulfide has been utilized in organic synthesis for example in an intramolecular Pauson-Khand reaction for the total synthesis of (-)-Jiadifenin.<sup>6</sup>



Tech. Note. (1)  
Ref. (1)

### References:

1. *J. Am. Chem. Soc.*, **2012**, 134, 13266-13275.
2. *Phys. Chem. C*, **2011**, 115, 20856-20863.
3. *J. Chem. Commun.*, **2011**, 47, 1592-1594.
4. *US Patent 9,698,311*, **2017**.
5. *WO Patent Application 131272662*, **2013**.
6. *Angew. Chem. Int. Ed. Engl.*, **2012**, 51, 9825-9828.

### Storage and Handling:

Handle in accordance with good industrial hygiene and safety practices, which include avoiding unnecessary exposure to the product and removal of material from skin, eyes and clothing. The material is classified as corrosive, so appropriate PPE should be worn. For additional health, safety and handling information refer to the product SDS. Keep containers tightly sealed under an inert gas and store in a dry area at room temperature. Rotate stock using the oldest material first.

Visit [www.strem.com](http://www.strem.com) for new product information and a searchable catalog.

**Strem Chemicals, Inc.**  
7 Mulliken Way  
Newburyport, MA 01950  
U.S.A  
Tel: 978.499.1600  
Fax: 978.465.3104  
Email: [info@strem.com](mailto:info@strem.com)

**Strem Chemicals, Inc.**  
15 rue de l'Atome  
Zone Industrielle  
67800 BISCHHEIM France  
Tel: (33) 03 88 62 52 60  
Fax: (33) 03 88 62 26 81  
Email: [info.europe@strem.com](mailto:info.europe@strem.com)

**Strem Chemicals, Inc.**  
Postfach 1215  
77672 KEHL  
Germany  
Tel: 0 78 51/ 7 58 79  
Email: [info.europe@strem.com](mailto:info.europe@strem.com)

**Strem Chemicals UK Ltd.**  
An Independent Distributor of Strem Chemicals Products  
Newton Hall, Town Street  
Newton, Cambridge  
England CB22 7ZE  
Tel: 0845 643 7263  
Fax: 0845 643 7362  
Email: [enquiries@strem.co.uk](mailto:enquiries@strem.co.uk)