

# Propanoic acid, 3,3'-thiobis-, didodecyl ester

**Other names:** Propionic acid, 3,3'-thiodi-, didodecyl ester  
Advastab 800  
Antioxidant AS  
Antioxidant LTDP  
Bis(dodecyloxycarbonylethyl) sulfide  
Didodecyl 3,3'-thiodipropionate  
Dilauryl «beta», «beta»-thiodipropionate  
Dilauryl «beta», «beta»'-thiodipropionate  
Dilauryl 3,3'-thiodipropionate  
DLT  
DLTDP  
DLTP  
DMPTP  
Ipognox 89  
Irganox PS 800  
Lauryl 3,3'-thiodipropionate  
Neganox DLTP  
Plastanox LTDP  
Plastanox LTDP Antioxidant  
Propionic acid, 3,3'-thiobis-, didodecyl ester  
Stabilizer DLT  
Thiobis[dodecyl propionate]  
Tyox B  
3,3'-Thiobis[propionic acid], didodecyl ester  
Dilauryl thiodipropionate  
Didodecyl thiodipropionate  
Carstab DLTP  
D 1 (antioxidant)  
Dilauryl «beta»', «beta»'-thiodipropionate  
Dilaurylester kyseliny «beta»', «beta»'-thiodipropionove  
Lusmit  
Milban F  
Cyanox LTDP  
Thiodipropionic acid didodecyl ester  
Arbestab DLTP  
Nonox DLTP  
Antiox L  
Rasumitto  
Sumilizer TPL  
Argus DLTP

Didodecyl 3,3-thiodipropionate

Evanstab 12

Lowinox DLTDP

Thiodipropionic acid dilauryl ester

3,3'-Thiodipropanoic acid,didodecyl ester

D 1

Propanoic acid, 3,3'-thiobis-, 1,1'-didodecyl ester

Dilauryl «beta»-thiodipropionate

**Inchi:**

InChI=1S/C30H58O4S/c1-3-5-7-9-11-13-15-17-19-21-25-33-29(31)23-27-35-28-24-30(32)

**InchiKey:**

GHKOFFNLGXMVNJ-UHFFFAOYSA-N

**Formula:**

C30H58O4S

**SMILES:**

CCCCCCCCCCCCOC(=O)CCSCCC(=O)OCCCCCCCCCCCC

**Mol. weight [g/mol]:**

514.84

**CAS:**

123-28-4

## Physical Properties

| Property code | Value    | Unit                 | Source         |
|---------------|----------|----------------------|----------------|
| gf            | -233.00  | kJ/mol               | Joback Method  |
| hf            | -1110.26 | kJ/mol               | Joback Method  |
| hfus          | 83.16    | kJ/mol               | Joback Method  |
| hvap          | 107.50   | kJ/mol               | Joback Method  |
| log10ws       | -9.99    |                      | Crippen Method |
| logp          | 9.428    |                      | Crippen Method |
| mcvol         | 464.790  | ml/mol               | McGowan Method |
| pc            | 628.45   | kPa                  | Joback Method  |
| tb            | 1107.16  | K                    | Joback Method  |
| tc            | 1398.54  | K                    | Joback Method  |
| tf            | 606.58   | K                    | Joback Method  |
| vc            | 1.817    | m <sup>3</sup> /kmol | Joback Method  |

## Temperature Dependent Properties

| Property code | Value   | Unit    | Temperature [K] | Source        |
|---------------|---------|---------|-----------------|---------------|
| cpg           | 1666.92 | J/mol×K | 1107.16         | Joback Method |
| cpg           | 1688.11 | J/mol×K | 1155.72         | Joback Method |
| cpg           | 1706.25 | J/mol×K | 1204.29         | Joback Method |
| cpg           | 1721.46 | J/mol×K | 1252.85         | Joback Method |

|     |         |         |         |               |
|-----|---------|---------|---------|---------------|
| cpg | 1733.88 | J/mol×K | 1301.42 | Joback Method |
| cpg | 1743.63 | J/mol×K | 1349.98 | Joback Method |
| cpg | 1750.85 | J/mol×K | 1398.54 | Joback Method |

## Sources

|                        |   |
|------------------------|---|
| <b>Joback Method:</b>  | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>                                     |
| <b>McGowan Method:</b> | <a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>                     |
| <b>NIST Webbook:</b>   | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C123284&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C123284&amp;Units=SI</a> |
| <b>Crippen Method:</b> | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>                                 |
| <b>Crippen Method:</b> | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                         |

## Legend

|                 |   |
|-----------------|---|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>gf:</b>      | Standard Gibbs free energy of formation         |
| <b>hf:</b>      | Enthalpy of formation at standard conditions    |
| <b>hfus:</b>    | Enthalpy of fusion at standard conditions       |
| <b>hvap:</b>    | Enthalpy of vaporization at standard conditions |
| <b>log10ws:</b> | Log10 of Water solubility in mol/l              |
| <b>logp:</b>    | Octanol/Water partition coefficient             |
| <b>mcvol:</b>   | McGowan's characteristic volume                 |
| <b>pc:</b>      | Critical Pressure                               |
| <b>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tc:</b>      | Critical Temperature                            |
| <b>tf:</b>      | Normal melting (fusion) point                   |
| <b>vc:</b>      | Critical Volume                                 |

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