

# Lauroyl peroxide

**Inchi:** InChI=1S/C24H46O4/c1-3-5-7-9-11-13-15-17-19-21-23(25)27-28-24(26)22-20-18-16-14-12-10-8-6-4-2  
**InchiKey:** YIVJZNGAASQVEM-UHFFFAOYSA-N  
**Formula:** C24H46O4  
**SMILES:** CCCCCCCCCCCCC(=O)OOC(=O)CCCCCCCCCCCC  
**Mol. weight [g/mol]:** 398.63  
**CAS:** 105-74-8

## Physical Properties

| Property code | Value   | Unit    | Source                                                           |
|---------------|---------|---------|------------------------------------------------------------------|
| af            | 1.2666  |         | Cheméo Relay (1.0)                                               |
| gf            | -469.54 | kJ/mol  | Joback Method                                                    |
| hf            | -977.01 | kJ/mol  | Cheméo Relay (1.0)                                               |
| hfus          | 66.65   | kJ/mol  | Joback Method                                                    |
| hvap          | 128.15  | kJ/mol  | Cheméo Relay (1.0)                                               |
| ie            | 9.84    | eV      | Cheméo Relay (1.0)                                               |
| log10ws       | -7.68   |         | Cheméo Relay (1.0)                                               |
| logp          | 7.830   |         | Crippen Method                                                   |
| mcvol         | 363.900 | ml/mol  | McGowan Method                                                   |
| pc            | 810.76  | kPa     | Joback Method                                                    |
| tb            | 632.26  | K       | Cheméo Relay (1.0)                                               |
| tc            | 808.07  | K       | Cheméo Relay (1.0)                                               |
| tf            | 325.65  | K       | Jean-Claude Bradley<br>Open Melting Point<br>Dataset (2014, CC0) |
| vc            | 1.431   | m3/kmol | Cheméo Relay (1.0)                                               |

## Correlations

| Information   | Value                                                        |
|---------------|--------------------------------------------------------------|
| Property code | cpg                                                          |
| Equation      | $Y = A + B \cdot T + C \cdot T^2 + D \cdot T^3 + E \cdot T.$ |
| Y unit        | J/mol×K                                                      |
| Coeff. A      | 3.18900e+01                                                  |
| Coeff. B      | 2.17424e+00                                                  |

|                             |              |
|-----------------------------|--------------|
| Coeff. C                    | -1.09260e-03 |
| Coeff. D                    | 1.60200e-07  |
| Coeff. E                    | 0.00000e+00  |
| Basis                       | predicted    |
| Temperature range (K), min. | 273.00       |
| Temperature range (K), max. | 1000.00      |

| Information                 | Value                                                                   |
|-----------------------------|-------------------------------------------------------------------------|
| Property code               | dvisc                                                                   |
| Equation                    | $Y = \exp(A + B/T + C \cdot \ln(T) + D \cdot T^E)$                      |
| Y unit                      | Pa·s                                                                    |
| Coeff. A                    | -1.45640e+01                                                            |
| Coeff. B                    | 3.34972e+03                                                             |
| Coeff. C                    | 0.00000e+00                                                             |
| Coeff. D                    | 0.00000e+00                                                             |
| Coeff. E                    | 0.00000e+00                                                             |
| Basis                       | predicted                                                               |
| Comment                     | Liquid phase. Joback/Reid (1987), valid from $T_f$ to $0.7 \cdot T_c$ . |
| Temperature range (K), min. | 325.65                                                                  |
| Temperature range (K), max. | 741.80                                                                  |

## Sources

|                                                             |                                                                                                                                                                                         |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Crippen Method:                                             | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                                                                       |
| Cheméo Relay (1.0):                                         |                                                                                                                                                                                         |
| Cheméo Relay (1.0, beta):                                   |                                                                                                                                                                                         |
| Jean-Claude Bradley Open Melting Point Dataset (2014, CC0): | <a href="https://figshare.com/articles/Jean_Claude_Bradley_Open_Melting_Point_Dataset/1031637">https://figshare.com/articles/Jean_Claude_Bradley_Open_Melting_Point_Dataset/1031637</a> |
| Joback Method:                                              | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>                                                                                   |
| McGowan Method:                                             | <a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>                                                                   |
| Crippen Method:                                             | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>                                                                               |

## Legend

|        |                                         |
|--------|-----------------------------------------|
| af:    | Acentric Factor                         |
| cpg:   | Ideal gas heat capacity                 |
| dvisc: | Dynamic viscosity                       |
| gf:    | 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>ie:</b>      | Ionization energy                               |
| <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                                 |

Latest version available from:

<https://www.cheméo.com/cid/111-920-6/Lauroyl-peroxide.pdf>

Generated by Cheméo on 2026-10-31 00:44:32.688375334 +0000 UTC m=+31185.615212617.

Cheméo (<https://www.cheméo.com>) is the biggest free database of chemical and physical data for the process industry.