

1,11-Dibromoundecane

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|-----------------------------|---|
| Other names: | Undecamethylene dibromide Undecane, 1,11-dibromo- |
| Inchi: | InChI=1S/C11H22Br2/c12-10-8-6-4-2-1-3-5-7-9-11-13/h1-11H2 |
| InchiKey: | SIBVHGAPHVRHMJ-UHFFFAOYSA-N |
| Formula: | C11H22Br2 |
| SMILES: | BrCCCCCCCCCCBr |
| Mol. weight [g/mol]: | 314.10 |
| CAS: | 16696-65-4 |

Physical Properties

| Property code | Value | Unit | Source |
|---------------|---------|---------|----------------|
| gf | 70.38 | kJ/mol | Joback Method |
| hf | -217.71 | kJ/mol | Joback Method |
| hfus | 34.82 | kJ/mol | Joback Method |
| hvap | 52.95 | kJ/mol | Joback Method |
| log10ws | -5.29 | | Crippen Method |
| logp | 5.287 | | Crippen Method |
| mcvol | 200.850 | ml/mol | McGowan Method |
| pc | 2191.78 | kPa | Joback Method |
| tb | 583.40 | K | Joback Method |
| tc | 772.41 | K | Joback Method |
| tf | 333.33 | K | Joback Method |
| vc | 0.775 | m3/kmol | Joback Method |

Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---------------|--------|---------|-----------------|---------------|
| cpg | 536.96 | J/mol×K | 772.41 | Joback Method |
| cpg | 458.85 | J/mol×K | 583.40 | Joback Method |
| cpg | 473.59 | J/mol×K | 614.90 | Joback Method |
| cpg | 487.60 | J/mol×K | 646.40 | Joback Method |
| cpg | 500.90 | J/mol×K | 677.90 | Joback Method |
| cpg | 513.54 | J/mol×K | 709.40 | Joback Method |
| cpg | 525.55 | J/mol×K | 740.91 | Joback Method |

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|-----|--------|---------|--------|---|
| cpl | 389.40 | J/mol×K | 285.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 394.47 | J/mol×K | 297.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 394.92 | J/mol×K | 298.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 395.16 | J/mol×K | 298.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 395.85 | J/mol×K | 300.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 396.56 | J/mol×K | 301.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 397.28 | J/mol×K | 303.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 398.01 | J/mol×K | 304.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 398.75 | J/mol×K | 306.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 399.50 | J/mol×K | 307.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 400.25 | J/mol×K | 309.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 401.02 | J/mol×K | 310.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 401.79 | J/mol×K | 312.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 402.57 | J/mol×K | 313.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 403.35 | J/mol×K | 315.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 404.15 | J/mol×K | 316.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 404.94 | J/mol×K | 318.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 405.75 | J/mol×K | 319.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 406.56 | J/mol×K | 321.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 407.37 | J/mol×K | 322.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 408.19 | J/mol×K | 324.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 409.01 | J/mol×K | 325.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 409.84 | J/mol×K | 327.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 410.67 | J/mol×K | 328.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 393.79 | J/mol×K | 295.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 412.33 | J/mol×K | 331.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 413.17 | J/mol×K | 333.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 414.01 | J/mol×K | 334.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 414.84 | J/mol×K | 336.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 415.68 | J/mol×K | 337.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 416.53 | J/mol×K | 339.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 417.37 | J/mol×K | 340.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 418.21 | J/mol×K | 342.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 419.04 | J/mol×K | 343.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 419.88 | J/mol×K | 345.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 420.72 | J/mol×K | 346.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 421.55 | J/mol×K | 348.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 422.38 | J/mol×K | 349.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 423.21 | J/mol×K | 351.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 424.04 | J/mol×K | 352.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-----|--------|---------|--------|---|
| cpl | 424.86 | J/mol×K | 354.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 393.12 | J/mol×K | 294.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 392.47 | J/mol×K | 292.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 391.83 | J/mol×K | 291.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 391.20 | J/mol×K | 289.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |

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|-------|-----------|---------|--------|---|
| cpl | 390.59 | J/mol×K | 288.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 389.99 | J/mol×K | 286.65 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 411.50 | J/mol×K | 330.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| cpl | 425.41 | J/mol×K | 355.15 | Heat Capacity of alpha,omega-Bromochloroalkanes and ?,?-Dibromoalkanes: Their Dependence on the Hydrocarbon Chain Length and Temperature (285.15 to 355.15) K |
| dvisc | 0.0003759 | Paxs | 500.04 | Joback Method |
| dvisc | 0.0005326 | Paxs | 458.37 | Joback Method |
| dvisc | 0.0008090 | Paxs | 416.69 | Joback Method |
| dvisc | 0.0013486 | Paxs | 375.01 | Joback Method |
| dvisc | 0.0025544 | Paxs | 333.33 | Joback Method |
| dvisc | 0.0002175 | Paxs | 583.40 | Joback Method |
| dvisc | 0.0002800 | Paxs | 541.72 | Joback Method |

Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---------------|-------|------|----------------|--------|
|---------------|-------|------|----------------|--------|

Correlations

| Information | Value |
|-----------------------------|-------------------------------|
| Property code | pvap |
| Equation | $\ln(P_{vp}) = A + B/(T + C)$ |
| Coeff. A | 1.69232e+01 |
| Coeff. B | -5.66681e+03 |
| Coeff. C | -1.01876e+02 |
| Temperature range (K), min. | 442.52 |
| Temperature range (K), max. | 589.90 |

Sources

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|---|---|
| The Yaws Handbook of Vapor Pressure: | https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure |
| Crippen Method: | http://pubs.acs.org/doi/abs/10.1021/ci9903071 |
| Crippen Method: | https://www.chemeo.com/doc/models/crippen_log10ws |
| Heat Capacity of alpha,omega-Bromoalkanes and Joback Method: | https://www.doi.org/10.1021/je201002j |
| alpha,omega-Bromoalkanes and Joback Method: Their Dependence on the Hydrocarbon Chain Length and McGowan Method: | https://en.wikipedia.org/wiki/Joback_method |
| McGowan Method: | http://link.springer.com/article/10.1007/BF02311772 |
| NIST Webbook: | http://webbook.nist.gov/cgi/cbook.cgi?ID=C16696654&Units=SI |

Legend

| | |
|-----------------|---|
| cpg: | Ideal gas heat capacity |
| cpl: | Liquid phase heat capacity |
| dvisc: | Dynamic viscosity |
| gf: | Standard Gibbs free energy of formation |
| hf: | Enthalpy of formation at standard conditions |
| hfus: | Enthalpy of fusion at standard conditions |
| hvap: | Enthalpy of vaporization at standard conditions |
| log10ws: | Log10 of Water solubility in mol/l |
| logp: | Octanol/Water partition coefficient |
| mcvol: | McGowan's characteristic volume |

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|--------------|-----------------------------------|
| pc: | Critical Pressure |
| pvap: | Vapor pressure |
| tb: | Normal Boiling Point Temperature |
| tbrp: | Boiling point at reduced pressure |
| tc: | Critical Temperature |
| tf: | Normal melting (fusion) point |
| vc: | Critical Volume |

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