

Undecanal

Other names:	1-Undecanal Aldehyde C-11 Aldehyde C-11, undecylic C-11 Aldehyde, undecylic HENDECANAL Hendecanaldehyde N-UNDECYL ALDEHYDE NSC 22578 Undecanaldehyde Undecyl aldehyde Undecylic aldehyde n-Undecanal
Inchi:	InChI=1S/C11H22O/c1-2-3-4-5-6-7-8-9-10-11-12/h11H,2-10H2,1H3
InchiKey:	KMPQYAYAQWNLME-UHFFFAOYSA-N
Formula:	C11H22O
SMILES:	CCCCCCCCCCC=O
Mol. weight [g/mol]:	170.29
CAS:	112-44-7

Physical Properties

Property code	Value	Unit	Source
gf	-57.78	kJ/mol	Joback Method
hf	-355.95	kJ/mol	Joback Method
hfus	26.54	kJ/mol	Joback Method
hvap	69.30	kJ/mol	NIST Webbook
hvap	64.60 ± 0.50	kJ/mol	NIST Webbook
log10ws	-3.71		Crippen Method
logp	3.716		Crippen Method
mcpvol	167.420	ml/mol	McGowan Method
pc	2066.12	kPa	Joback Method
rinpol	1285.00		NIST Webbook
rinpol	1315.00		NIST Webbook
rinpol	239.10		NIST Webbook
rinpol	1310.00		NIST Webbook
rinpol	1285.00		NIST Webbook
rinpol	1287.00		NIST Webbook
rinpol	1304.00		NIST Webbook

rinpol	1325.00	NIST Webbook
rinpol	1318.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	239.08	NIST Webbook
rinpol	239.10	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1285.00	NIST Webbook
rinpol	1285.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1310.60	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1304.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1325.00	NIST Webbook
rinpol	1307.90	NIST Webbook
rinpol	1321.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1314.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1318.00	NIST Webbook
rinpol	1314.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1316.00	NIST Webbook
rinpol	1318.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1300.00	NIST Webbook

rinpol	1309.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1280.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1294.00	NIST Webbook
rinpol	1285.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1278.50	NIST Webbook
rinpol	1263.40	NIST Webbook
rinpol	1273.10	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1317.00	NIST Webbook
rinpol	1317.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1281.90	NIST Webbook
rinpol	1281.00	NIST Webbook
rinpol	1281.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1315.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1305.00	NIST Webbook

rinpol	1305.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1301.00	NIST Webbook
rinpol	1299.00	NIST Webbook
rinpol	1307.90	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1303.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1304.00	NIST Webbook
rinpol	1304.00	NIST Webbook
rinpol	1300.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1300.00	NIST Webbook
rinpol	1308.80	NIST Webbook
rinpol	1320.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1300.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1316.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1305.00	NIST Webbook

rinpol	1311.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1300.00	NIST Webbook
rinpol	1300.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1284.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1293.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1278.00	NIST Webbook
rinpol	1285.70	NIST Webbook
rinpol	1285.90	NIST Webbook
rinpol	1293.00	NIST Webbook
rinpol	1272.00	NIST Webbook
rinpol	1280.00	NIST Webbook
rinpol	1281.00	NIST Webbook
rinpol	1296.00	NIST Webbook
rinpol	1309.20	NIST Webbook
rinpol	1314.00	NIST Webbook
rinpol	1295.00	NIST Webbook
rinpol	1298.00	NIST Webbook
rinpol	1298.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1319.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1311.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1317.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1320.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1309.00	NIST Webbook

rinpol	1308.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1303.00	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1354.00	NIST Webbook
rinpol	1318.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1285.00	NIST Webbook
rinpol	1284.00	NIST Webbook
rinpol	1310.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1274.00	NIST Webbook
rinpol	1296.00	NIST Webbook
rinpol	1296.00	NIST Webbook
rinpol	1282.00	NIST Webbook
rinpol	1293.00	NIST Webbook
rinpol	1305.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1309.00	NIST Webbook
rinpol	1281.00	NIST Webbook
rinpol	1291.00	NIST Webbook
rinpol	1301.00	NIST Webbook
rinpol	1313.00	NIST Webbook
rinpol	1304.00	NIST Webbook
rinpol	1307.00	NIST Webbook
rinpol	1308.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1306.00	NIST Webbook
rinpol	1286.00	NIST Webbook
rinpol	1306.00	NIST Webbook

ripol	1290.00	NIST Webbook
ripol	1311.00	NIST Webbook
ripol	1286.00	NIST Webbook
ripol	1306.00	NIST Webbook
ripol	1310.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1296.00	NIST Webbook
ripol	1287.00	NIST Webbook
ripol	1326.00	NIST Webbook
ripol	1589.00	NIST Webbook
ripol	1583.00	NIST Webbook
ripol	1634.00	NIST Webbook
ripol	1600.00	NIST Webbook
ripol	1610.00	NIST Webbook
ripol	1609.00	NIST Webbook
ripol	1617.00	NIST Webbook
ripol	1599.00	NIST Webbook
ripol	1594.70	NIST Webbook
ripol	1618.00	NIST Webbook
ripol	1580.00	NIST Webbook
ripol	1593.00	NIST Webbook
ripol	1591.00	NIST Webbook
ripol	1609.00	NIST Webbook
ripol	1604.00	NIST Webbook
ripol	1609.00	NIST Webbook
ripol	1595.00	NIST Webbook
ripol	1598.00	NIST Webbook
ripol	1585.00	NIST Webbook
ripol	1609.00	NIST Webbook
ripol	1617.00	NIST Webbook
ripol	1622.00	NIST Webbook
ripol	1617.00	NIST Webbook
ripol	1645.00	NIST Webbook
ripol	1622.00	NIST Webbook
ripol	1599.00	NIST Webbook
ripol	1600.00	NIST Webbook
ripol	1589.00	NIST Webbook
ripol	1583.00	NIST Webbook
ripol	1607.00	NIST Webbook
ripol	1604.00	NIST Webbook
ripol	1610.00	NIST Webbook
ripol	1597.00	NIST Webbook
ripol	1593.00	NIST Webbook

ripol	1614.00		NIST Webbook
ripol	1611.00		NIST Webbook
ripol	1613.00		NIST Webbook
ripol	1634.00		NIST Webbook
ripol	1630.00		NIST Webbook
ripol	1593.00		NIST Webbook
ripol	1622.00		NIST Webbook
ripol	1601.00		NIST Webbook
ripol	1600.00		NIST Webbook
ripol	1592.00		NIST Webbook
ripol	1604.00		NIST Webbook
ripol	1600.00		NIST Webbook
ripol	1611.00		NIST Webbook
ripol	1610.00		NIST Webbook
ripol	1596.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1591.00		NIST Webbook
ripol	1606.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1594.70		NIST Webbook
ripol	1612.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1580.00		NIST Webbook
ripol	1618.00		NIST Webbook
ripol	1630.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1598.00		NIST Webbook
ripol	1594.00		NIST Webbook
ripol	1580.00		NIST Webbook
ripol	1624.00		NIST Webbook
ripol	1624.00		NIST Webbook
ripol	1610.00		NIST Webbook
ripol	1587.00		NIST Webbook
ripol	1580.00		NIST Webbook
ripol	1634.00		NIST Webbook
ripol	1622.00		NIST Webbook
ripol	1649.00		NIST Webbook
ripol	1606.00		NIST Webbook
ripol	1622.00		NIST Webbook
ripol	1609.00		NIST Webbook
ripol	1625.00		NIST Webbook
tb	545.15 ± 5.00	K	NIST Webbook
tc	667.21	K	Joback Method

tf	269.00 ± 3.00	K	NIST Webbook
vc	0.668	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	469.31	J/mol×K	667.21	Joback Method
cpg	457.24	J/mol×K	639.30	Joback Method
cpg	444.64	J/mol×K	611.39	Joback Method
cpg	431.50	J/mol×K	583.48	Joback Method
cpg	417.78	J/mol×K	555.56	Joback Method
cpg	403.49	J/mol×K	527.65	Joback Method
cpg	388.61	J/mol×K	499.74	Joback Method
dvisc	0.0051433	Paxs	255.73	Joback Method
dvisc	0.0002724	Paxs	499.74	Joback Method
dvisc	0.0003578	Paxs	459.07	Joback Method
dvisc	0.0004957	Paxs	418.40	Joback Method
dvisc	0.0007365	Paxs	377.74	Joback Method
dvisc	0.0012040	Paxs	337.07	Joback Method
dvisc	0.0022525	Paxs	296.40	Joback Method
hvapt	60.20	kJ/mol	344.00	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	385.20	K	0.70	NIST Webbook
tbrp	383.00	K	0.70	NIST Webbook
tbrp	390.20	K	2.40	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.51338e+01

Coeff. B	-4.45893e+03
Coeff. C	-7.90800e+01
Temperature range (K), min.	379.42
Temperature range (K), max.	533.04

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/T + C \cdot \ln(T) + D \cdot T^2$
Coeff. A	1.33696e+02
Coeff. B	-1.25365e+04
Coeff. C	-1.71082e+01
Coeff. D	8.65866e-06
Temperature range (K), min.	273.15
Temperature range (K), max.	672.00

Sources

KDB:	https://www.thermo.com/files/research/kdb/mol/mol1242.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C112447&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.thermo.com/research/kdb/hcprop/showprop.php?cmpid=1242
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

cpg:	Ideal gas 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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient

mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

Latest version available from:

<https://www.chemeo.com/cid/38-353-8/Undecanal.pdf>

Generated by Cheméo on 2024-04-23 14:46:51.349981397 +0000 UTC m=+16172860.270558711.

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