Octadecanamide

Other names:	Adogen 42
	Advawax 290
	Amide T
	Armid 18
	Crodamide S
	Crodamide SR
	Kemamide S
	NSC 66462
	Petrac vyn-eze
	Stearic amide
	Stearoylamide
	Stearoylamine
	Stearylamide
	Uniwax 1750
	octadecamide
	octadecylamide
	stearamide
	stearic acid amide
Inchi:	InChI=1S/C18H37NO/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18(19)20/h2-17H2,1H
InchiKey:	LYRFLYHAGKPMFH-UHFFFAOYSA-N
Formula:	C18H37NO
SMILES:	CCCCCCCCCCCCCCCCCC(N)=O
Mol. weight [g/mol]:	283.49
CAS:	124-26-5

Physical Properties

Property code	Value	Unit	Source
gf	38.21	kJ/mol	Joback Method
hf	-493.64	kJ/mol	Joback Method
hfus	54.80	kJ/mol	Heat Capacities and Enthalpies of Solid-Solid Transitions and Fusion of a Series of Eleven Primary Alkylamides by Differential Scanning Calorimetry
hvap	73.05	kJ/mol	Joback Method
log10ws	-6.57		Crippen Method
logp	5.733		Crippen Method

mcvol	276.030	ml/mol	McGowan Method
pc	1252.15	kPa	Joback Method
rinpol	2332.00		NIST Webbook
rinpol	2398.00		NIST Webbook
rinpol	2349.00		NIST Webbook
rinpol	2349.00		NIST Webbook
rinpol	2398.00		NIST Webbook
tb	737.64	K	Joback Method
tc	915.13	K	Joback Method
tf	382.20 ± 0.60	K	NIST Webbook
tf	382.05 ± 0.30	K	NIST Webbook
tf	379.10 ± 0.20	K	NIST Webbook
vc	1.079	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	874.39	J/mol×K	796.80	Joback Method
cpg	891.01	J/mol×K	826.38	Joback Method
cpg	906.81	J/mol×K	855.96	Joback Method
cpg	921.81	J/mol×K	885.55	Joback Method
cpg	838.54	J/mol×K	737.64	Joback Method
cpg	856.91	J/mol×K	767.22	Joback Method
cpg	936.05	J/mol×K	915.13	Joback Method
hfust	54.80	kJ/mol	379.70	NIST Webbook
hfust	59.91	kJ/mol	377.20	NIST Webbook
hfust	59.91	kJ/mol	377.20	NIST Webbook
hsubt	195.80 ± 4.20	kJ/mol	373.00	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	523.70	K	1.60	NIST Webbook

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C124265&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Heat Capacities and Enthalpies of Solid-Solid Transitions and Fusion of a series of Eleven Primary Alkylamides by Differential Scanning Calorimetry:	https://www.doi.org/10.1021/je700662a
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsubt:	Enthalpy of sublimation at a given temperature
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
pc:	Critical Pressure
rinpol:	Non-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