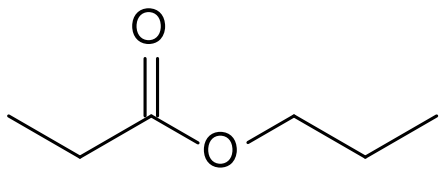
n-PROPYL PROPIONATE

CAS Name	PROPANOIC ACID, PROPYL ESTER
IUPAC Name	PROPYL PROPIONATE
CAS RN®*	106-36-5
DIPPR Id	1324
Sm. Form	CCC(=O)OCCC
M. Form	C6H12O2
S. Form	CH3CH2COOCH2CH2CH3
Family	PROPIONATES AND BUTYRATES
Sub Family	n-propionates
Release Date	1/01/1984
Review Date	1/01/1991

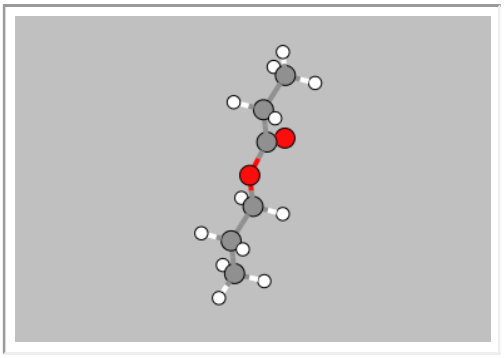
* CAS Registry Number® is a Registered Trademark of the American Chemical Society

Synonyms:

2D Structure



3D Structure



Advanced 3D view

Ningde Amperex Tech. Exhibit No. 2024
Zhuhai CosMX Battery Co. Ltd. v. Ningde Amperex Tech.
IPR2025-00431, U.S. Patent No. 11,799,131
Page 1 of 6

Property	Value	Units
Molecular Weight (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=MW&unit=g/mol&selectedPropertyName=Molecular Weight)	116.16	g/mol
Critical Temperature (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=TC&unit=C&selectedPropertyName=Critical Temperature)	295.45	C
Critical Pressure (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=PC&unit=bar&selectedPropertyName=Critical Pressure)	30.600	bar
Critical Volume (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=VC&unit=m^3/mol&selectedPropertyName=Critical Volume)	0.0003890	m^3/mol
Critical Compressibility Factor (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=ZC&unit=unitless&selectedPropertyName=Critical%20Compressibility%20Factor)	0.252	unitless
Acentric Factor (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=ACEN&unit=unitless&selectedPropertyName=Acentric%20Factor)	0.448676	unitless
Normal Boiling Point (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=NBP&unit=C&selectedPropertyName=Normal Boiling Point)	122.50	C
Melting Point (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=MP&unit=C&selectedPropertyName=Melting Point)	-75.90	C
Triple Point Temperature (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=TPT&unit=C&selectedPropertyName=Triple Point Temperature)	-75.90	C
Triple Point Pressure (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=TPP&unit=bar&selectedPropertyName=Triple Point Pressure)	0.000001714	bar
Liquid Molar Volume (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=LVOL&unit=m^3/mol&selectedPropertyName=Liquid Molar Volume)	0.00013247	m^3/mol
Ideal Gas Enthalpy of Formation (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HFOR&unit=kJ/mol&selectedPropertyName=Ideal Gas Enthalpy of Formation)	-483.10	kJ/mol
Ideal Gas Gibbs Energy of Formation (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=GFOR&unit=kJ/mol&selectedPropertyName=Ideal Gas Gibbs Energy of Formation)	-309.90	kJ/mol
Ideal Gas Absolute Entropy (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=ENT&unit=J/mol*K&selectedPropertyName=Ideal Gas Absolute Entropy)	442.00	J/mol•K
Std Heat of Formation (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HSTD&unit=kJ/mol&selectedPropertyName=Std Heat of Formation)	-527.50	kJ/mol
Std Gibbs Energy of Formation (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=GSTD&unit=kJ/mol&selectedPropertyName=Std Gibbs Energy of Formation)	-319.90	kJ/mol

Property	Value	Units
Std Absolute Entropy (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=SSTD&unit=J/mol*K&selectedPropertyName=Std Absolute Entropy)	327.40	J/mol•K
Heat of Fusion at Melting Point (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HFUS&unit=kJ/mol&selectedPropertyName=Heat of Fusion at Melting Point)	15.00	kJ/mol
Std Net Heat of Combustion (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HCOM&unit=kJ/mol&selectedPropertyName=Std Net Heat of Combustion)	-3280.0	kJ/mol
Flash Point (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=FP&unit=C&selectedPropertyName=Flash Point)	21.00	C
Lower Flammability Limit (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=FLVL&unit=Vol%25%20in%20air&selectedPropertyName=Lower%20Flammability%20Limit)	1.3	Vol% in air
Lower Flammability Limit Temperature (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=FLTL&unit=C&selectedPropertyName=Lower Flammability Limit Temperature)	18.85	C
Upper Flammability Limit (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=FLVU&unit=Vol%25%20in%20air&selectedPropertyName=Upper%20Flammability%20Limit)	7.7	Vol% in air
Upper Flammability Limit Temperature (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=FLTU&unit=C&selectedPropertyName=Upper Flammability Limit Temperature)	52.85	C
Auto Ignition Temperature (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=AIT&unit=C&selectedPropertyName=Auto Ignition Temperature)	434.85	C
Radius of Gyration (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=RG&unit=m&selectedPropertyName=Radius of Gyration)	4.311E-10	m
Solubility Parameter (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=SOLP&unit=(J/m^3)^0.5&selectedPropertyName=Solubility Parameter)	17320	$(J/m^3)^{0.5}$
Dipole Moment (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=DM&unit=C*m&selectedPropertyName=Dipole Moment)	5.97E-30	C•m
Van Der Waals Volume (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=VDWV&unit=m^3/mol&selectedPropertyName=Van Der Waals Volume)	0.000073230	m^3/mol
Van Der Waals Area (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=VDWA&unit=nm^2/mol&selectedPropertyName=Van Der Waals Area)	1.0490e+24	nm^2/mol
Refractive Index (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=RI&unit=unitless&selectedPropertyName=Refractive%20Index)	1.392	unitless
Heat of Sublimation (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HSUB&unit=kJ/mol&selectedPropertyName=Heat of Sublimation)	68.80	kJ/mol

Property	Value	Units
Parachor (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=PAR&unit=unitless&selectedPropertyName=Parachor)	293.8	unitless
Dielectric Constant (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=DC&unit=unitless&selectedPropertyName=Dielectric%20Constant)	4.7	unitless
Henry's Law Constant (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=HLC&unit=kPa*mol/mol&selectedPropertyName=Henry's Law Constant)	2.03590E+3	kPa•mol/mol
Solubility of the Chemical in Water (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=SOLW&unit=mole fraction&selectedPropertyName=Solubility of the Chemical in Water)	9.09860E-4	mole fraction
Activity Coefficient of the Chemical in Water (/FullDb/DatabaseReferences?SelectedChemId=1324&selectedPropertyId=ACCW&unit=unitless&selectedPropertyName=Activity%20Coefficient%20of%20the%20Chemical%20in%20Water)	1.09300E+3	unitless

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Temperature Dependent Properties for n-PROPYL PROPIONATE

Liquid Viscosity

View Data (/FullDb/TDepDatabaseReferences?SelectedChemId=1324&selectedPropertyId=LVS&unit=Pa%2As&selectedPropertyName=Liquid%20Viscosity)

Liquid Viscosity Correlation

DIPPR Equation #101 using standard DIPPR units of K and Pa·s

Coefficient Values						
A	B	C	D	E	F	G
-15.209	1385.7	0.56305	0.0	0.0	0.0	0.0

Temp Range	197.25	—	395.65	K
Output Range	Min: 0.00546997 — Max: 0.000238934			Pa·s
Uncertainty	< 10%			

$$Y = e^{A+\frac{B}{T}+Cln(T)+DT^E}$$

Note: When using this equation and coefficients, temperature must be in units of K, and the returned value will be in units of Pa·s.

Property Calculator (user-specified units)

Temp Range	-75.90	—	122.50	C
Output Range	Min: 5.4700 — Max: 0.23893			mPa·s

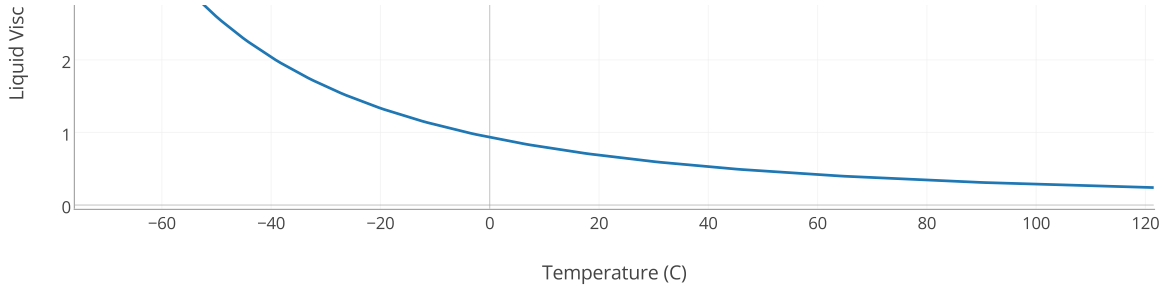
Input Temp 20

Temp Units C

Output Units mPa•s

Calculate

LVS(20C) = **0.68674 mPa·s**



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