

# Hydrocortisone

**Other names:**

- 11,17,21-Trihydroxypregn-4-ene-3,20-dione, (11«beta»)-
- 11,17,21-Trihydroxypregn-4-ene-3,20-dione, (11Â«betaÂ»)-
- 11.beta.,17.alpha.,21-trihydroxypregn-4-ene-3,20-dione
- 11Beta,17,21-trihydroxy progesterone
- 11«beta»,17,21-Trihydroxypregn-4-ene-3,20-dione
- 11«beta»,17,21-trihydroxyprogesterone
- 11«beta»,17«alpha»,21-Trihydroxy-4-pregnene-3,20-dione
- 11«beta»,17«alpha»,21-Trihydroxypregn-4-ene-3,20-dione
- 11«beta»-Hydrocortisone
- 11«beta»-Hydroxycortisone
- 11Â«betaÂ»,17,21-Trihydroxypregn-4-ene-3,20-dione
- 11Â«betaÂ»,17,21-trihydroxyprogesterone
- 11Â«betaÂ»,17Â«alphaÂ»,21-Trihydroxy-4-pregnene-3,20-dione
- 11Â«betaÂ»,17Â«alphaÂ»,21-Trihydroxypregn-4-ene-3,20-dione
- 11Â«betaÂ»-Hydrocortisone
- 11Â«betaÂ»-Hydroxycortisone
- 17-Hydroxycorticosterone
- 17«alpha»-Hydroxycorticosterone
- 17Â«alphaÂ»-Hydroxycorticosterone
- 4-Pregnen-11«beta»,17«alpha»,21-triol-3,20-dione
- 4-Pregnen-11Â«betaÂ»,17Â«alphaÂ»,21-triol-3,20-dione
- 4-Pregnene-11«beta»,17«alpha»,21-triol-3,20-dione
- 4-Pregnene-11Â«betaÂ»,17Â«alphaÂ»,21-triol-3,20-dione
- Acticort
- Aeroseb HC
- Ala-Scalp
- Alacort
- Anflam
- Barseb HC
- CaldeCort Spray
- Cetacort
- Cleiton
- Cobadex
- Compound F
- Compound F (kendall)
- Cort-Dome
- Cortanal
- Cortef
- Cortenema
- Corticreme

Cortifan  
Cortiment  
Cortisol  
Cortisol alcohol  
Cortispray  
Cortolotion  
Cortonema  
Cortoxide  
Cortril  
Cremesone  
Delacort  
Dermacort  
Dermocortal  
Dermolate  
Dihydrocortisone  
Dioderm  
Domolene-HC  
Efcorbin  
Efcortelan  
Efcortelin  
Eldecort  
Eldercort  
Epicort  
Epiderm H  
Esiderm H  
Ficortril  
Fiocortril  
Genacort  
H-Cort  
HC  
Heb-Cort  
Hidro-Colisona  
Hycort  
Hycortol  
Hycortole  
Hydrasson  
Hydro-Adreson  
Hydro-colisona  
Hydrocorticosterone  
Hydrocortisone alcohol  
Hydrocortisone free alcohol  
Hydrocortistab  
Hydrocortisyl

Hydrocortone  
Hydroxycortisone  
Hytone  
Hytone lotion  
Incortin-H  
Incortin-hydrogen  
Kendall's Compound F  
Komed HC  
Lacticare-HC  
Maintasone  
Medicort  
Mildison  
NSC 10483  
Nutracort  
Optef  
Otosone-F  
Penecort  
Permicort  
Polcort H  
Pregn-4-ene-3,20-dione, 11,17,21-trihydroxy-, (11 «beta»)-  
Pregn-4-ene-3,20-dione, 11,17,21-trihydroxy-, (11 «beta»)-  
Pregn-4-ene-3,20-dione, 11 «beta»,17,21-trihydroxy-  
Pregn-4-ene-3,20-dione, 11 «beta»,17,21-trihydroxy-  
Proctocort  
Rectoid  
Reichstein's Substance M  
Scheroson F  
Signef  
Tarcortin  
Texacort lotion 25  
Topicort  
Traumaide  
U 1851  
Zenoxone  
anti-Inflammatory hormone

**Inchi:**

InChI=1S/C21H30O5/c1-19-7-5-13(23)9-12(19)3-4-14-15-6-8-21(26,17(25)11-22)20(15,2

**InchiKey:**

JYGXADMDTFJGBT-NDNUHCHRSA-N

**Formula:**

C21H30O5

**SMILES:**

CC12CCC(=O)C=C1CCC1C2C(O)CC2(C)C1CCC2(O)C(=O)CO

**Mol. weight [g/mol]:**

362.46

**CAS:**

50-23-7

# Physical Properties

Property code	Value	Unit	Source
chs	-11480.00 ± 30.00	kJ/mol	NIST Webbook
gf	-372.80	kJ/mol	Joback Method
hf	-892.33	kJ/mol	Joback Method
hfus	30.71	kJ/mol	Joback Method
hvap	120.46	kJ/mol	Joback Method
log10ws	-3.09		Estimated Solubility Method
log10ws	-3.05		Aqueous Solubility Prediction Method
logp	1.782		Crippen Method
mcvol	279.760	ml/mol	McGowan Method
pc	2147.32	kPa	Joback Method
tb	1117.27	K	Joback Method
tc	1367.94	K	Joback Method
tf	490.70	K	Aqueous Solubility Prediction Method
tf	494.75	K	Thermodynamic equilibrium of hydrocortisone form I in different solvent systems
vc	1.046	m <sup>3</sup> /kmol	Joback Method

# Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1383.50	J/mol×K	1284.38	Joback Method
cpg	1445.75	J/mol×K	1326.16	Joback Method
cpg	1185.49	J/mol×K	1117.27	Joback Method
cpg	1228.38	J/mol×K	1159.05	Joback Method
cpg	1275.34	J/mol×K	1200.83	Joback Method
cpg	1326.87	J/mol×K	1242.60	Joback Method
cpg	1514.13	J/mol×K	1367.94	Joback Method
hfust	35.84	kJ/mol	486.00	NIST Webbook
hfust	35.84	kJ/mol	486.00	NIST Webbook

# Sources

Thermodynamic equilibrium of hydrocortisone form I in different Solubility of Budesonide, Hydrocortisone, and Prednisolone in Ethanol-Water Mixtures at 298.2 K:

<https://www.doi.org/10.1016/j.fluid.2017.09.007>

<https://www.doi.org/10.1021/je900376r>

[https://en.wikipedia.org/wiki/Joback\\_method](https://en.wikipedia.org/wiki/Joback_method)

Aqueous Solubility Prediction Method:

<http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDataset002.xlsx>

Estimated Solubility Method:

[http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl\\_file/ci034243xsi20040112\\_053635.txt](http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt)

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C50237&Units=SI>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci9903071>

# Legend

<b>chs:</b>	Standard solid enthalpy of combustion
<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	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>hfust:</b>	Enthalpy of fusion at a given temperature
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<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/61-656-6/Hydrocortisone.pdf>

Generated by Cheméo on 2025-12-05 13:30:19.054680333 +0000 UTC m=+4689616.584720987.

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