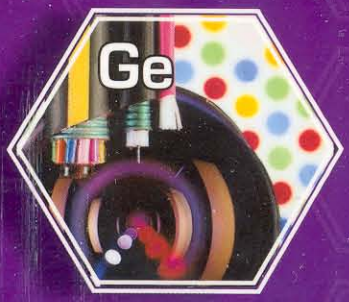
Gelest

METAL-ORGANICS
for Materials, Polymers & Synthesis



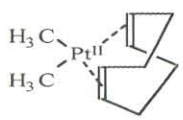
Name	MW	bp °C/mm (mp)	D_4^{20}	n_D^{20}

PLATINUM

Pt

Atomic number 78
Atomic weight 195.08
CAS number 7440-06-4
Boiling point 3,827°C
Melting point 1,772°C
Specific gravity (20°C) 21.45
Crystal form Face-centered cubic
Electrical resistivity (20°C) 10.6 μΩ·cm
Enthalpy of melting 19.7 kJ/mol
Enthalpy of vaporization 469 kJ/mol
Ionization potential (spectral) 9.0 eV (I), 18.563 eV (II)
(aqueous) -1.188 V (+2)
Oxidation states 0, 1, 2, 3, 4
Electronegativity, Pauling 2.2
Specific heat (25°C) 0.032 cal/g K
Thermal conductivity (25°) 71.6 W/(m K)

COMPOUNDS



OMPT021
DIMETHYLPLATINUM(II) CYCLOOCTADIENE COMPLEX — 333.34 — (103-5)
$C_{10}H_{18}Pt$
Soluble: acetone, toluene, pentane, CO_2 — Color: yellow
Precursor for Pt films by MOCVD at 200°.[1]
Employed in fluidized bed deposition of Pt on supports for heterogeneous catalysis.[2]
COD ligand readily replaced by phosphines.[3]
1. Hierso, J. et al. *Chem. Mater.* **2000**, *12*, 390.
2. Hierso, J. et al. *J. Mol. Catal., A: Chem.* **1998**, *135*, 321.
3. Smith, D. et al. *Organometallics* **2000**, *19*, 1427.
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions
[12266-92-1] HMIS: 3-2-1-X store <5°C 1.0g $220.00

$Pt^0 \cdot CO \cdot (CH_2{=}CH(Me)SiO)_4$

SIP6829.2
PLATINUM CARBONYL CYCLOVINYLMETHYLSILOXANE COMPLEX — 1.02
OSSKO CATALYST
$C_8H_{18}OPtSi_2 \cdot CO$
1.85 - 2.1% platinum concentration in vinylmethylcyclic siloxanes
Catalyst for Si-H addition to olefins; silicone vinyl addition cure catalyst
Employed in elevated temperature curing silicones
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions
[73018-55-0] TSCA HMIS: 2-2-0-X 5g $49.00 25g $196.00

$Pt^0 \cdot 1.5[(CH_2{=}CH(Me)_2Si]_2O)$

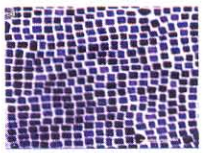
SIP6830.3
PLATINUM-DIVINYLTETRAMETHYLDISILOXANE - COMPLEX — 474.68 — 0.98
KARSTEDT CATALYST
$C_{24}H_{54}O_3Pt_2Si_6$
3-3.5% platinum concentration in vinyl terminated polydimethylsiloxane, 200 cSt
Complex is $Pt[O(SiMe_2CH{=}CH_2)_2]_{1\text{-}5}$
Neutral catalyst for Si-H addition to olefins
Silicone vinyl addition cure catalyst
Employed in room temperature curing silicones
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions
[68478-92-2] TSCA EC 270-844-4 HMIS: 2-2-0-X 5g $44.00 25g $176.00

$Pt^0 \cdot 1.5[(CH_2{=}CH(Me)_2Si]_2O)$

SIP6831.2
PLATINUM-DIVINYLTETRAMETHYLDISILOXANE-COMPLEX in xylene — 474.68 — Flashpoint: 38°C (100°F) — 0.8852 — 1.4954
KARSTEDT CATALYST
$C_{24}H_{54}O_3Pt_2Si_6$ 2.1-2.4% platinum concentration
Hot catalyst employed in room temperature curing silicones
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions
[68478-92-2] TSCA EC 270-844-4 HMIS: 2-3-0-X 5g $35.00 25g $140.00

PLEASE INQUIRE ABOUT BULK QUANTITIES

Name	MW	bp °C/mm (mp)	D_4^{20}	n_D^{20}
SIP6831.2LC				
PLATINUM-DIVINYLTETRAMETHYLDISILOXANE	474.68		0.90	
COMPLEX in xylene, LOW COLOR	Flashpoint: 38°C (100°F)			
KARSTEDT CATALYST				
$C_{24}H_{54}O_3Pt_2Si_6$ 2.0 - 2.2% platinum concentration				
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions				
[68478-92-2] TSCA EC 270-844-4 HMIS: 2-3-0-X		10g $120.00		
SIP6832.2				
PLATINUM-CYCLOVINYLMETHYLSILOXANE COMPLEX			1.02	
ASHBY-KARSTEDT CATALYST				
2.0 - 2.3% platinum concentration in cyclic methylvinylsiloxanes				
Neutral catalyst for Si-H additions to olefins				
Silicone vinyl addition cure catalyst employed in moderately elevated temperature curing silicones				
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions				
[68585-32-0] TSCA EC 271-555-6 HMIS: 2-2-0-X		5g $39.00	25g $156.00	
SIP6833.2				
PLATINUM-OCTANAL/OCTANOL COMPLEX			0.845	1.4344
LAMOREAUX CATALYST	Flashpoint: 81°C (178°F)			
2 - 2.5% platinum concentration in octanol				
Catalyst for Si-H additions to olefins				
Silicone vinyl addition cure catalyst				
Increases flammability resistance of silicones				
HYDROLYTIC SENSITIVITY: 4: no reaction with water under neutral conditions				
[68412-56-6] TSCA EC 270-195-7 HMIS: 2-2-0-X		5g $35.00	25g $140.00	
AKP610				
PLATINUM 2,4-PENTANEDIONATE	393.31	(250-2)		
$C_{10}H_{14}O_4Pt$ Metal content: 49.3-49.8% Pt				
Soluble: methylene chloride	Color: pale yellow			
Oxidative addition product with I_2 photodissociates in CCl_4.[1]				
With $Fe(CO)_5$ forms high coactivity nanoparticles suitable for magnetic storage.[2]				
Catalyst for photopatterned carboxosilanes employed as sensors.[3]				
Forms Pt 3d-Transition Metal Nanocubes in presence of $W(CO)_6$.[4]				



TEM image of high-quality (100)-terminated Pt_4 nanocubes prepared from Platinum 2,4-pentanedionate

Courtesy of Professor J. Fang, SUNY Binghamton

1. Cook, P. et al. *J. Chem. Soc., Dalton Trans.* **1973**, 294.
2. Sun, S. et al. *Science* **2000**, *287*, 1989.
3. Grate, J. et al. *Chem. Innovation* **2000**, *30(11)*, 29.
4. Zhang, J. et al. *J. Am. Chem. Soc.* **2009**, *131*, 18543.

[15170-57-7] TSCA EC 239-223-5 HMIS: 3-1-1-X 1.0g $96.00 5g $384.00