

Challenge! Catalyst for Future!

Special Precious Catalysts Inc.





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We will grow into a specialist in fine chemical materials.

SPCI Co., Ltd. has led the history of Metallocene catalyst in South Korea since its establishment in 2009.

Despite trial and error in the process of pioneering a new frontier, we have successfully earned the trust of both domestic and overseas customers through our innovative technology and solutions.

Following changes in the market, we have expanded our R&D capabilities in Metallocene catalyst and know-how in synthesis technology to grow our foothold in the field of fine chemistry, especially in electronic materials, donors, and borate. Through all this, we have committed to securing future growth engines.

We plan to create value through specialized technology and products. Furthermore, we aim to actively manage corporate social responsibility for mutual growth. SPCI Co., Ltd. is committed to becoming a company that leads the global market through the stable supply of core materials for petrochemistry and semiconductors to attain international standing through relevant and dependable domestic industries.



Date of Establishment **April. 20th, 2009**

CEO **Lee Cheol**

Number of Employees **45 (10 for R&D)**

Intellectual Properties

Registered patents (5), applied patents (7), registered trademarks (2)

Key Products

Metallocene catalyst, electronic materials, organic intermediaries, donors, etc.

Key Certifications

ISO 14001, ISO 9001, Inno-Biz, Venture Enterprise, Corporate R&D Center

Major Clients

LG Chem, SK innovation, DL Chemical, Lotte Chemical, Hanwha Total, TOTAL (BE), PTTGC (TH), DS Techopia, UP Chemical, Hansol Chemical, ADEKA



Company History and Technical Developments



- 2009** Establishment of PCI Co., Ltd.
- 2010** Establishment of the Corporate Research Institute
- 2012** Completion of Factory 1; development of mass-production technology for general-purpose metallocene catalyst for polyolefine (PE) for the first time in Korea and its commercial production
- 2015** Completion of Factory 1; development of mass-production technology for general-purpose metallocene catalyst for polyolefine (PP) for the first time in Korea and its commercial production
- 2018** Started commercialization of PB-401 (Soluble Borate) catalyst
Development of mass-production technology for semiconductor capacity Ti (titanium) precursors and their commercial production
- 2019** Secured production technology patent and implementing commercialization of Cr catalyst for 1-Octene
- 2021** Completion of R&D Center and Factory 2
- 2023** Dongtan R&D Center 2 to be established



Plant 1



Plant 2



R&D Center 1 (Gyeongju)



Facilities

Pilot Facility



Plant 1



Plant 2



Reactor

(-25~250°C)

300L G/L Reactor : 1EA
50L G/L Reactor : 3EA
30L G/L Reactor : 1EA

3,000L (G/L) : 1EA
2,000L (G/L, SUS) : 2EA
1,000L (G/L, SUS) : 2EA

5,000L (G/L, SUS) : 2EA
3,000L (G/L, SUS) : 6EA
1,500L (SUS, High-pressure Reacto) : 2EA

Refining facilities

3,000L Purifier(SUS) : 1EA
1,000L F/D(SUS) : 1EA

3,000L Purifier(SUS) : 2EA
1,500L F/D(SUS) : 2EA



Reactor



High-pressure Reactor



Product Storage



NMR



GC



ICP-OES

Business Area

Metallocene catalyst (For polyolefine)

- Production of metallocene catalyst, the core ingredient for producing polyolefine
- More than 13 years worth of know-how in metallocene production
- Development and supply of general-use metallocene catalyst (from grams to tons)
- Development and supply of tailored metallocene catalysts (OEM & ODM-production)

Electronic materials

- Domestication of electronic materials e.g., precursors, the key material for semiconductors, that currently rely on imports
- Development and supply of tailored electronic materials (OEM & ODM-production)

Borate

- Supply of soluble borate, a supplementary additive that can replace high-cost MAO (methyl aluminium oxane)
- This borate has more even particles than powder borate and offers stable activities. It is easier to inject as it is added in a solution state.

Other catalysts

- Holds patent and production technology for Cr catalyst used in the production of 1-Octene and 1-Hexene
- Development and supply of tailored intermediary materials (OEM & ODM-production)

Core Technology

Metallocene catalyst are made of air/moisture-sensitive materials.

All manufacturing processes, from raw material to packaging, are produced under inert gases.

- Key products
Metallocene PO catalyst
/
Electronic material (semiconductor precursor)
/
Other catalysts
- Specialized processes
n-Butyl Li Reaction, Grignard Reaction, Sodium Reaction, Hydrogenation Reaction



Based Technologies

Technology handling organo-metallic chemicals



Alkyl Lithium/Sodium, Grignard (Class 3 Dangerous Substances)

Technology controlling inert condition



Possible for reaction, filtration, drying, and packaging processes under the inert gas condition

Technology of solvent purification with less oxygen and moisture



Solvent Purification
Moisture < 5 ppm, Oxygen < 1 ppm

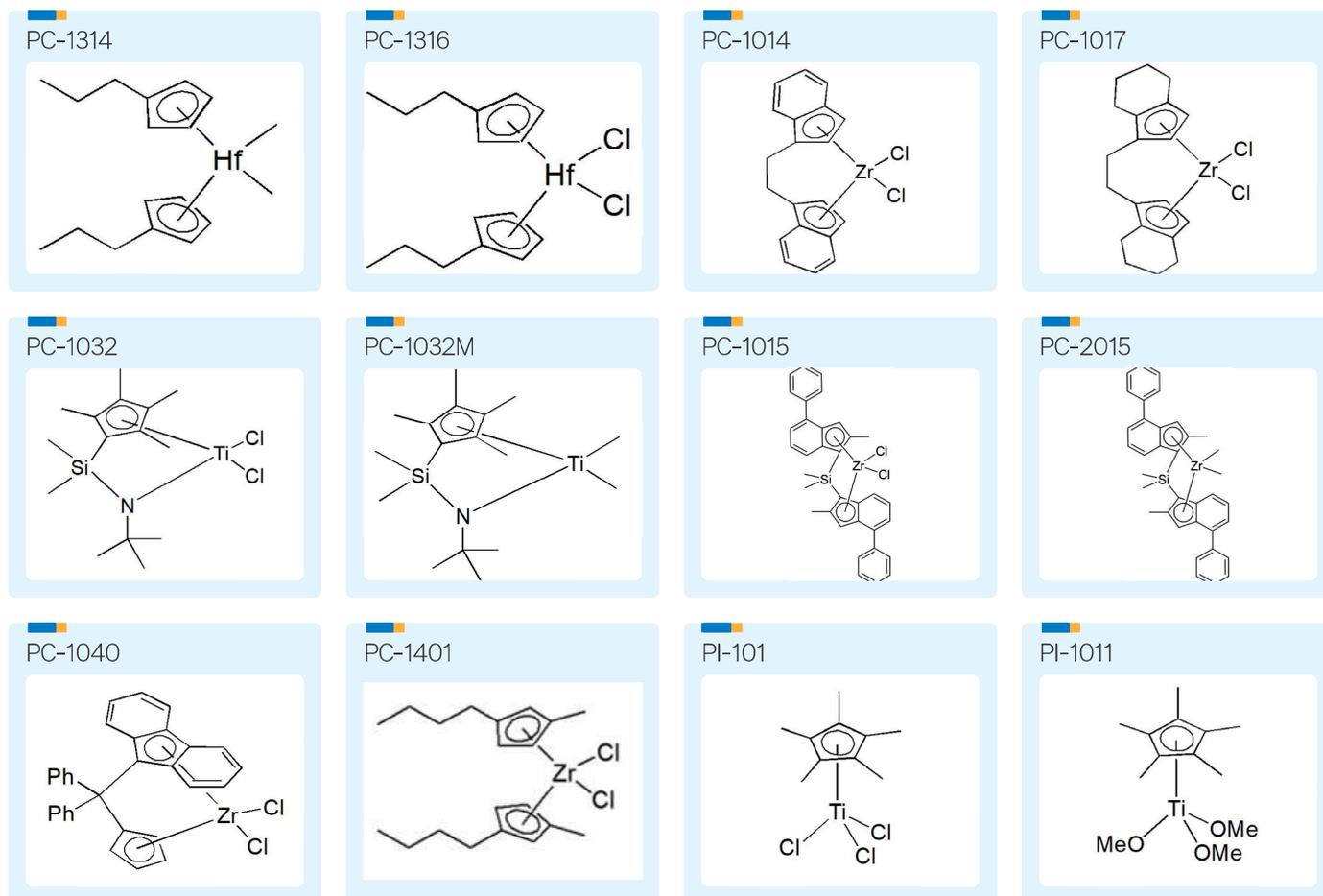
Technology for stable storage and distribution



Provide proper containers for export and distribution with stable storage

Anhydrous Technique

 **Product List** (80EA of commercial products)



	 CODE	 CAS No.	 Catalyst	 Spec.
Metal-locene catalyst	PC-1014	100080-82-8	Ethylenebis(1-indenyl) zirconium dichloride	Purity >95%, Rac >98%
	PC-1017	100163-29-9	Ethylenebis(tetrahydroindenyl) zirconium dichloride	Purity >95%, Rac >99%
	PC-1401	151840-68-5	Bis(1-butyl-3-methylcyclopentadienyl) zirconium dichloride	Purity >95%
	PC-1032	135072-61-6	Dimethylsilylene(tert-butylamino) (tetramethylcyclopentadienyl) titanium dichloride	Purity >97%
	PC-1032M	135072-62-7	Dimethylsilylene(tert-butylamino) (tetramethylcyclopentadienyl) titanium dimethyl	Purity >97%
	PC-1015	158515-16-3	(Dimethylsilylene)bis(2-methyl-4-phenylindenyl) zirconium dichloride	Purity >95%, Rac >98%
Electronic materials	PI-101	12129-06-5	Pentamethylcyclopentadienyl titanium trichloride	Purity >99%
	PI-1011	123927-75-3	Pentamethylcyclopentadienyl titanium trimethoxide	
Borate	PB-401	462629-0-2	Diocadecyanilinium tetrakis (pentafluorophenyl) borate 50wt% in MCH solution	95%> by F-NMR, 95%> by H-NMR, water contents < 100ppm



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