

6/5/2023

Custom Manufacturing Introduction



July 2023

JNC Corporation - Overview

Shin Otemachi Bldg., 2-2-1 Otemachi,
Chiyoda-ku, Tokyo, JAPAN

Keizo Yamada (CEO & President)

2,673 Employees

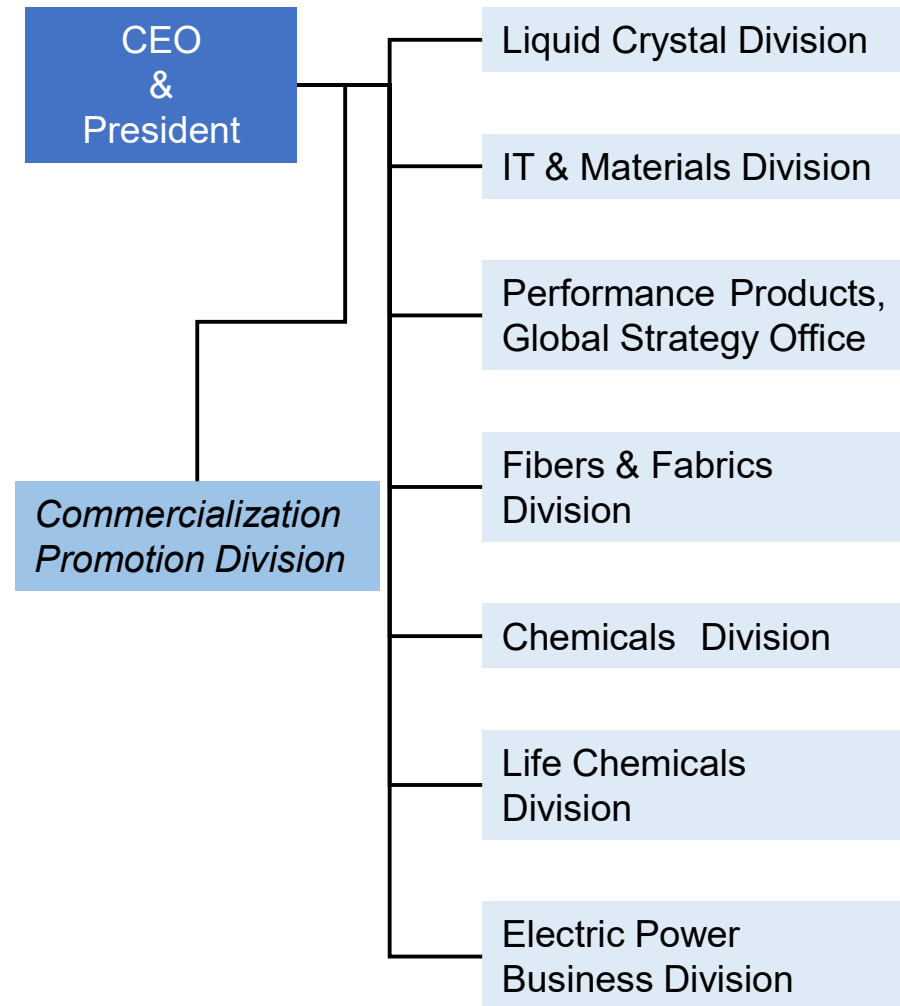
CHISSO CORPORATION 100% Holding

31.15 billion yen (paid-in capital)

Historical Overview

- 1906 Founded as Sogi Electric Company
- 1908 CHISSO Hiryo KK (renamed)
Started manufacturing of CaCN_2
- 1923 Started manufacturing of ammonia
- 1950 SHIN CHISSO HIRYO KK (renamed)
- 1962 CHISSO PETROCHEMICAL CORPORATION established
- 1963 Started manufacturing PP
- 1965 CHISSO CORPORATION (renamed)
- 1973 Started manufacturing Liquid Crystals
- 1981 Started manufacturing spherical

Organization Chart



Business Domains, Products and Services

Performance Products	Products for FPD, 5G technology, AI and the other technology supporting information society	Liquid Crystals OLED materials Heat-resistant Si materials Custom Manufacturing
Energy & Environment	Contributing to the realization of a sustainable society through the stable supply of clean energy	Power Generation Hydroelectric power Solar power Reactor Bio-System
Consumer-Oriented Goods	Manufacturing polyolefin-based thermo-bondable bi-component fiber and derived downstream products	Fibers and Nonwovens Resin Mold Products Filters Fertilizers
Chemical Products	Supplying petrochemicals from C3 distillate, and products for bio-process or food safety	Chemicals Life Chemical Products Synthetic Resins Technology & Licensing

Location of Minamata Factory



1-1, Noguchi-cho, Minamata, Kumamoto

Beginning of operation 1908

Total area ~500,000 m²

Employees 560 +


Products

- Performance products
- OLED materials
- Organic silicon products
- Life chemical products
- Synthetic organic materials and aroma chemicals
- Emulsion paints and adhesives
- Resin
- Fertilizers

Area for Performance Products
38,000 m²

Custom Manufacturing

Short on man-hours for manufacturing or refining? **JNC supports you with manufacturing and refining by utilizing our experience and knowledge trained over the years.**

Reactors	Various reactors corresponding high performance production			
Purifiers	Various purifiers including distillers, columns, crystallizers to control product quality			
Inspection	Various instruments for inspection or evaluation of products			
Certification	ISO 9001	ISO 14001	ISO 45001	Various Green purchasing standards
Human resource	We have many staff members accustomed to advanced quality control, through the manufacture of liquid crystals, organic EL compounds, and various silicone compounds.			

Equipment in Minamata Factory

Reactors

GL	50 L	2	7 ~	120 °C
GL	100 L	1	-45 ~	120 °C
GL	200 L	2	7 ~	120 °C
GL	300 L	1	7 ~	120 °C
GL	500 L	3	-25 ~	120 °C
GL	1,000 L	4	-15 ~	120 °C
GL	2,000 L	1	7 ~	120 °C
GL	4,000 L	2	7 ~	120 °C
GL	6,000 L	1	7 ~	120 °C
SUS	180 L	1	7 ~	120 °C
SUS	500 L	1	7 ~	120 °C
SUS	3,000 L	2	-25 ~	120 °C

Hydrogenation Reactors

SUS	250 L	1	~110 °C, < 1 MPa
SUS	750 L	1	~110 °C, < 1 MPa
SUS	1,500 L	3	~110 °C, < 1 MPa

Thin Film Distillers

SUS	1	~250 °C, 50 Pa
SUS	1	~300 °C, 0.1 Pa

Distillers

SUS	130 L	1	~250 °C, 0.7 Pa
SUS	200 L	2	~250 °C, 0.7 Pa
SUS	400 L	1	~250 °C, 0.7 Pa
SUS	500 L	2	~250 °C, 0.7 Pa

Column (processing capacity)

SUS	1,500 L	8	with heating jacket
	2,000 L	4	with heating jacket

Crystallizers

SUS	100 L	1	-40 ~	120 °C
SUS	200 L	3	-40 ~	120 °C
SUS	400 L	1	-40 ~	120 °C
SUS	800 L	4	-40 ~	120 °C
SUS	1,500 L	4	-40 ~	120 °C
SUS	2,500 L	4	-40 ~	120 °C

Filters

SUS	700 L	3
	1,500 L	5
	2,000 L	4

Concentrators

SUS	200 L	1	~120 °C
	400 L	3	~120 °C
	800 L	1	~120 °C
	1,000 L	4	~120 °C
	1,500 L	10	~120 °C
	3,000 L	5	~120 °C

Vacuum Tray Dryers

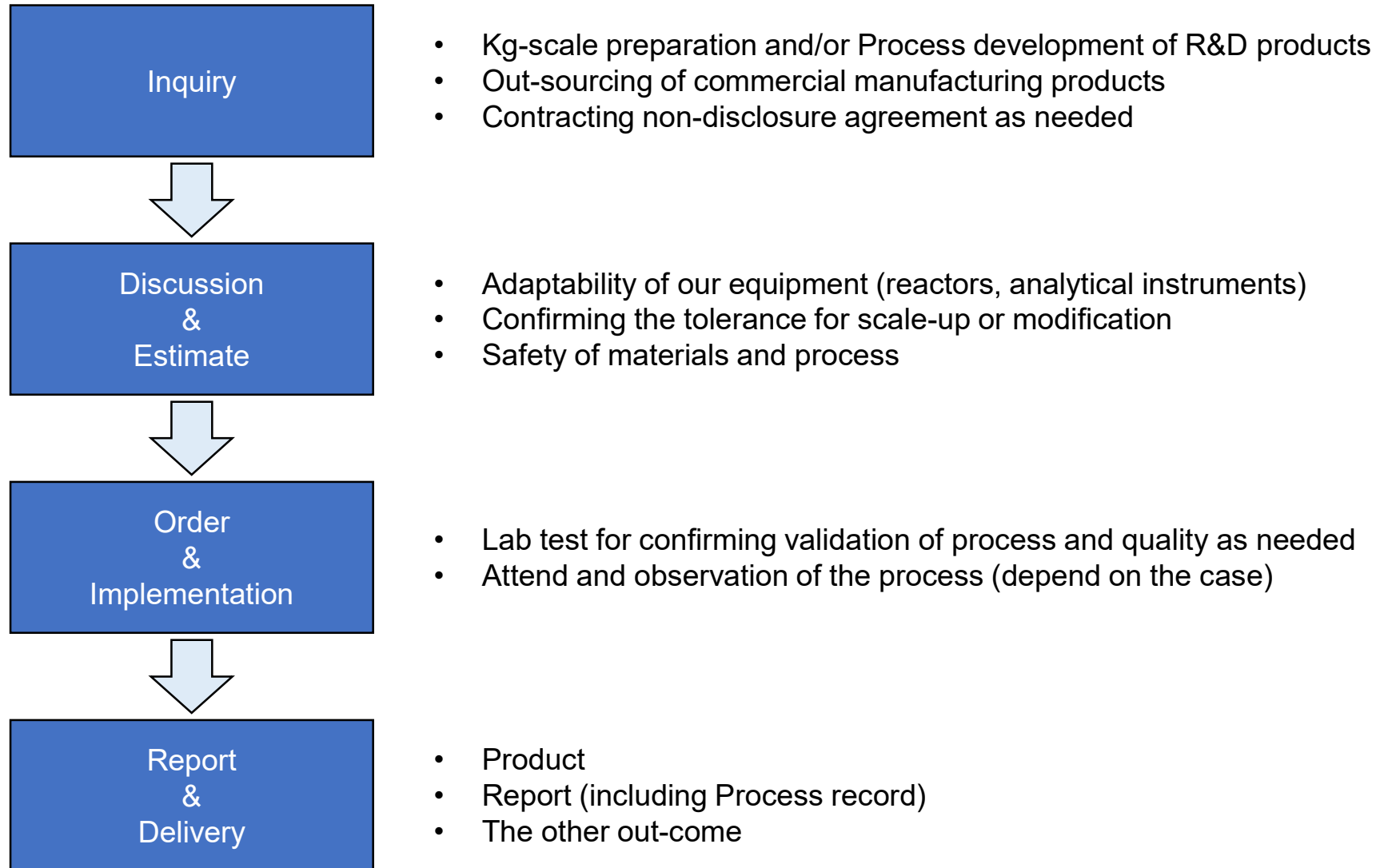
SUS	3	~120 °C
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Analytical Instruments

Chromatography	GC, GC/MS HPLC, LC/MS GPC Ion Chromatography
Thermal analysis	TG/DTA DSC
Elemental analysis	ICP-MS Elemental analysis Atomic Absorption Spectrometry
Electron microscopy	SEM, SEM-EDX
Spectrometry	FT-NMR FT-IR Raman UV-Vis MALDI-TOF
X-ray analysis	XPS, XRD, XRF
Others	Karl-Fischer moisture titrator Particle size distribution meter Viscometer Digital Microscope



Flowchart of Custom Manufacturing



Contact Info

JNC Corporation
Commercialization Promotion Division
Tomoo Matsuura

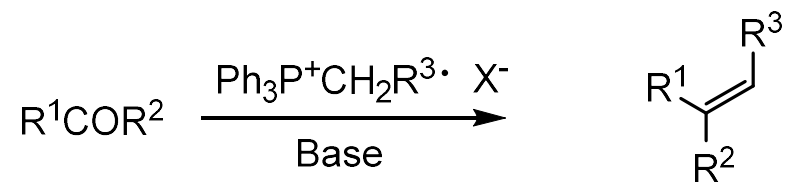
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TEL: +81-3-3243-6732 FAX: +81-3-3243-6363
Contact: <https://www.jnc-corp.co.jp/english/contact/>

Web

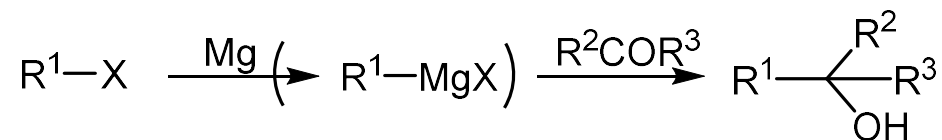
<https://www.jnc-corp.co.jp/english/>

Representative Reaction (1)

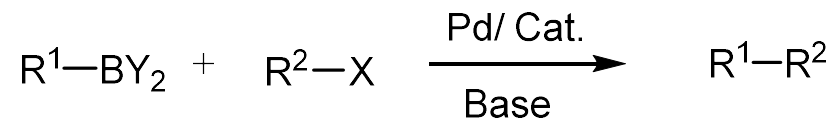
Wittig reaction



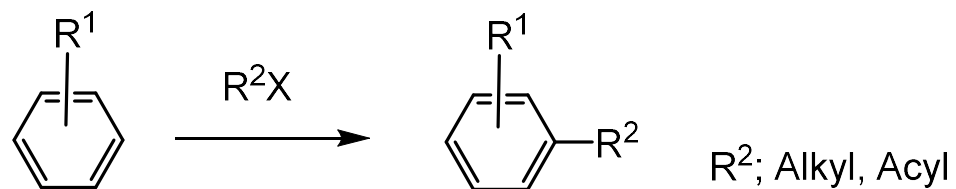
Grignard reaction



Suzuki-Miyaura cross-coupling

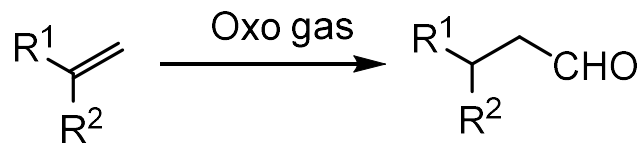


Friedel-Crafts reaction

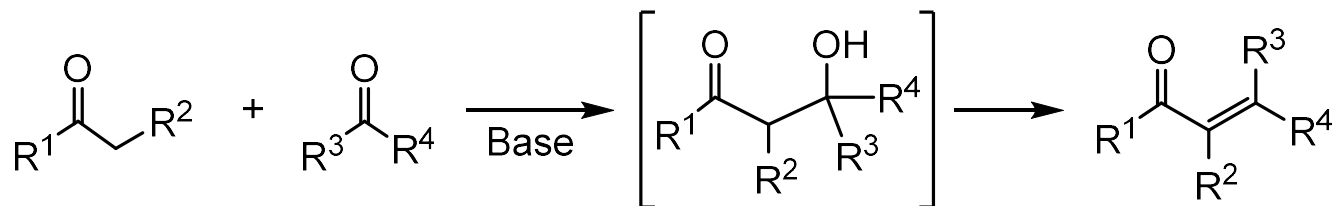


Representative Reaction (2)

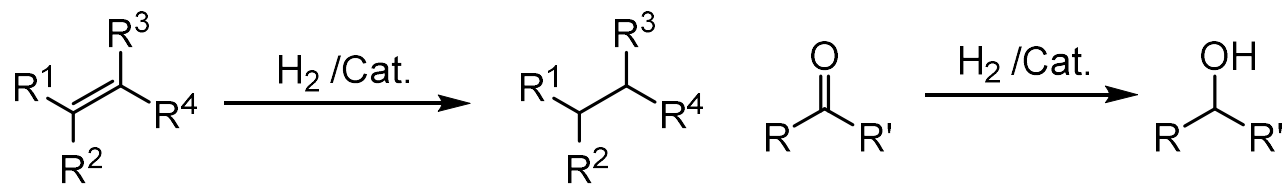
Oxo-reaction



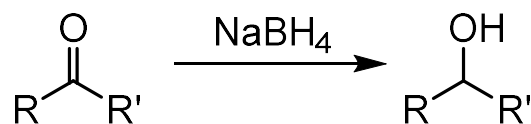
Aldol reaction



Hydrogenation

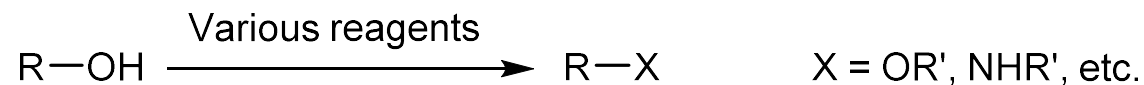


Hydride reduction

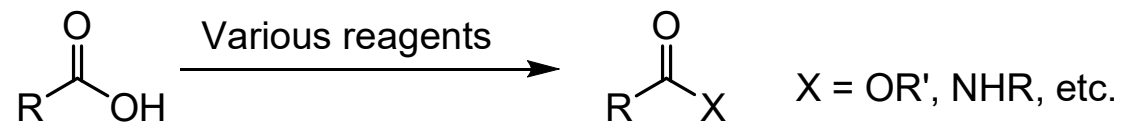


Representative Reaction (3)

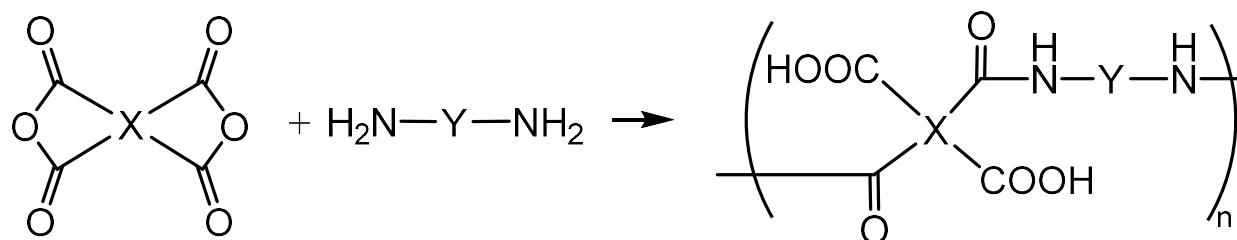
Substitution
reaction



Esterification
or
Amidation



Polyaddition



Acryl
polymerization

