AGC

Your Dreams, Our Challenge

AGC Life Science Company

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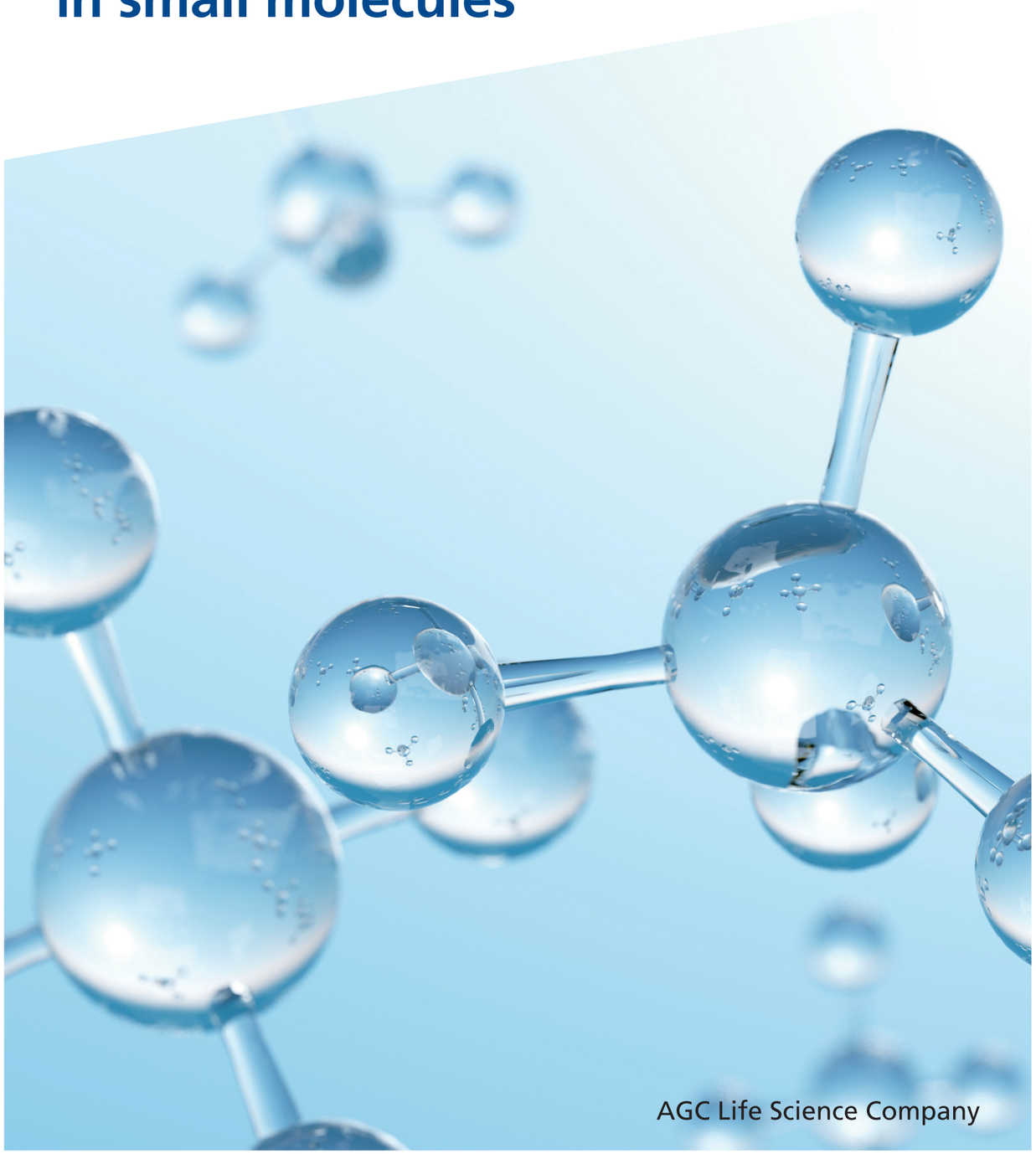
AGC

CDMO Service
in small molecules



AGC Life Science Company

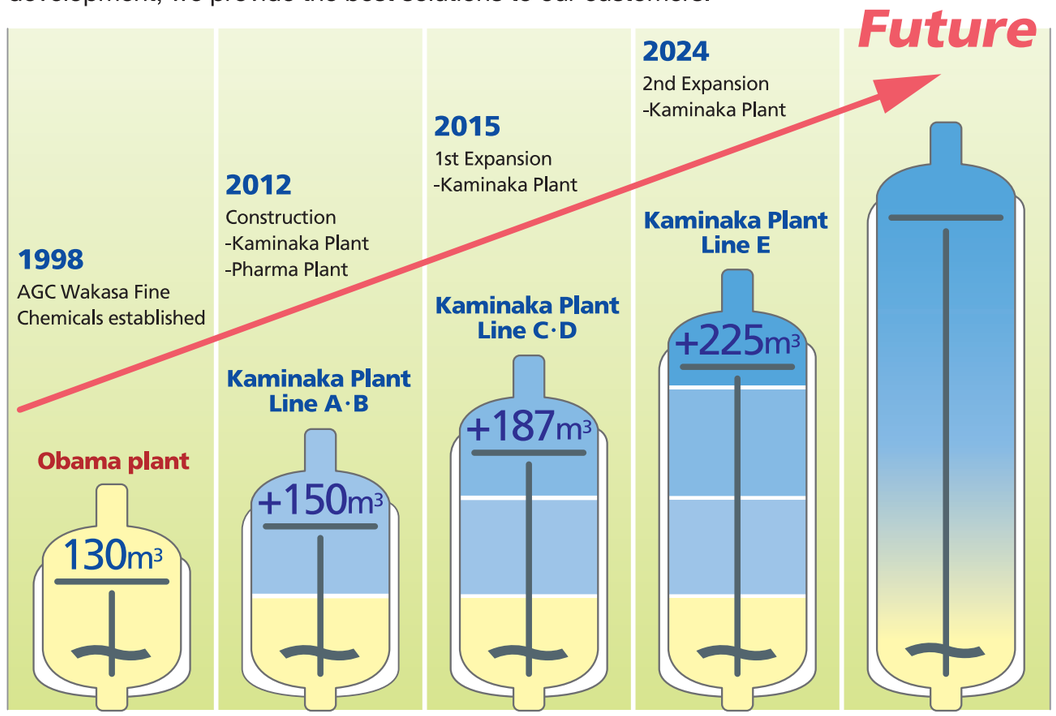
Who we are

The AGC Group operates in more than 30 countries and regions around the world with AGC Inc. as its core.
Backed up by the strengths of world-leading technology and know-how cultivated over many years as a materials manufacturer, we provide architectural, automotive and display glass, electronic materials, chemicals, life science products, ceramics and various other products to customers across a wide array of industries.

In 2023, AGC established a new in-house company, **Life Science Company** providing CDMO service for Agro & Specialty Chemicals, Synthetic Pharmaceuticals and Biopharmaceuticals.

CDMO service in small molecules:

For more than 25 years, we have offered one-stop solution from development to manufacturing of active ingredients (AIs) and intermediates with our advanced synthesis technology. With our unique fluorination technologies and extensive experiences in process development, we provide the best solutions to our customers.



We are growing

This is what you select AGC as your partner.

Reliability

- More than 25 years experiences as CDMO
- No critical/major incidents since 2012
- Continuous effort to keep GOLD rating in EcoVadis sustainability assessment in 2023

Firm supply

- Dedicated Procurement Team
- Multiple sourcing in procurement of raw material
- More than 99% conformance rate to customer's specification

Flexibility & Agility

- Highly qualified R&D team with many experiences
- Rapidly extend services and capacity to fit your projects
- Experience and know-how for smooth scale-up from pilot to commercial scale production

Integrity

- IP transparency

AGC's capabilities for CDMO service

AGC Inc. has AGC Wakasa Chemicals as its subsidiary providing
CDMO service for synthetic agrochemicals, pharmaceuticals and specialty chemicals.

AGC Wakasa Chemicals Kaminaka Plant

Products mainly manufactured:
Agrochemicals
(AIs, intermediates)

		Line A・B			Line C・D			Line E		
Equipment	Material	Capacity (m³)	Unit	Temperature (°C)	Capacity (m³)	Unit	Temperature (°C)	Capacity (m³)	Unit	Temperature (°C)
Reactor	Glass lining	3~10	13	-10 ~150	2 ~ 12	14	-10 ~ 180	15	8	-10 ~ 170
	Stainless steel	3~10	11	-45 ~ 280	4 ~ 14	8	-10 ~ 250	15	4	-10 ~170
	Alloy Hastelloy ※Alloy20	7	2	-45 ~ 150	9※	1※	-30 ~ 150※	15	3	-10 ~280
Distillation tower	Glass lining, Stainless steel, Hastelloy	3~7 (HETP 10 ~ 29)	3	130-280(FV)	4~8 (HETP 11 ~ 28)	5	160-280(FV)	15 (HETP 21 ~ 49)	3	160-280(FV)
Centrifuge filter	Stainless steel, Hastelloy Fresin Coating	~ 48 inch	6	–	~ 48 inch	3	–	36 ~ 60 inc	4	–
Dryer Vacuum Mixer Dryer	Stainless steel, Hastelloy	4	3	130(FV)	4	2	130(FV)	5	3	130(FV)
Dryer Conical dryer	Glass lining	2.9	1	130(FV)	–	–	–	–	–	–
Dryer Filter dryer	Stainless steel	–	–	–	–	–	–	–	–	–
Dryer Vibration dryer	Stainless steel	–	–	–	–	–	–	–	–	–

AGC Wakasa Chemicals Obama Plant

Products mainly manufactured:
Specialty chemicals
(Catalysts, electronics chemicals etc.)

Equipment		Material	Capacity (m³)	Unit	Temperature (°C)
Reactor		Glass lining	0.1 ~ 5	19	-30 ~ 150
		Stainless steel	0.1 ~ 5	22	-10 ~ 250
		PFA Lining	4	1	0 ~ 120
Distillation tower		Stainless steel, Glass lining	1~2 (HETP 7 ~ 10)	2	–
Centrifuge filter		Stainless steel, Fregin Coating	20 ~ 48 inch	8	–
Dryer	Vacuum Mixer Dryer	Stainless steel	2	1	–
Dryer	Conical dryer	Glass lining	1 ~ 2	2	–
Dryer	Filter dryer	Stainless steel	0.3 ~ 2.7	4	–
Dryer	Vibration dryer	Stainless steel	0.3	1	–

AGC's Unique Chemistry

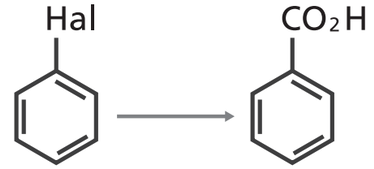
There's solution you want

Technology Portfolio

Basic technologies
Amide bond formation
Carboxylic acid chemistry
Corey-Chaykovsky reaction
Friedel-Crafts reaction
Grignard reaction
Halogenation (F, Cl, Br, I)
Hydrogenation
Low temperature reactions (down to –40 °C)
Metal-catalyzed cross-coupling reactions (Suzuki, Buchwald etc.)
Non catalytic cross-coupling reactions
(cf. cross aldol reaction)
Oxidation
Perfluoroalkylation
Reduction
Advanced technologies
Fluoro alkylated heterocycles
Microtube flow reaction
Perfluorovinyl ethers synthesis (PERFECT process)
Ozonolysis
Recyclling systems
Iodine recycling in AGC group
Palladium recycling
Solvent recycling (in-house & outsource)

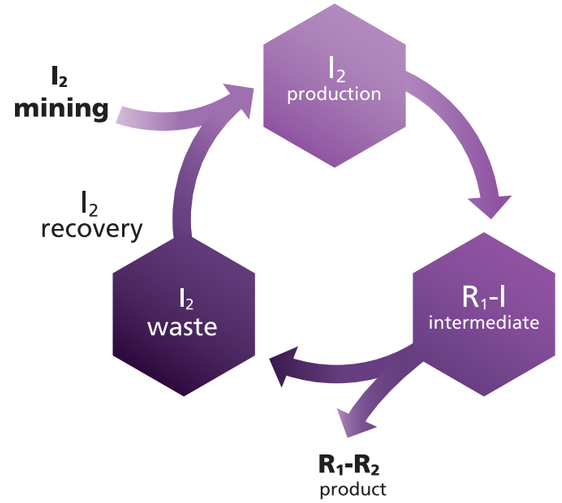
Aromatic carboxylic acid derivatives

AGC developed a new synthetic methodology which can produce benzoic acid derivatives with moderate reaction condition and no special equipment.



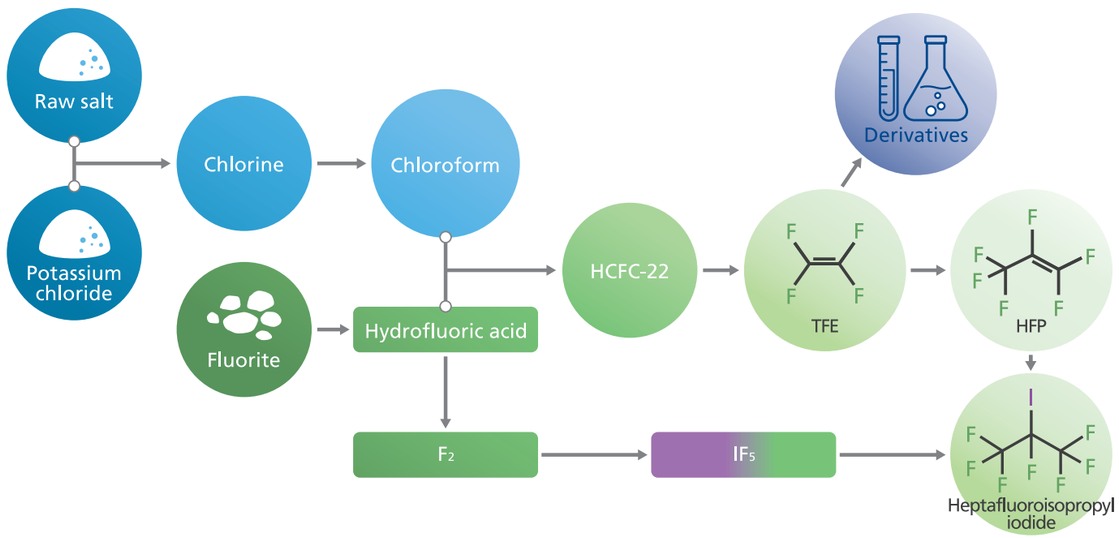
Iodine Recycling in AGC Group

AGC group has a world-leading Iodine manufacturing company named Ise Chemicals Corp., which enables the CDMO business to be competitive on price with highly efficient Iodine recycling system.



AGC's Chemical Chain

AGC has a vertically integrated fluorochemical production chain and offers more competitive value in fluorine containing products to customers.

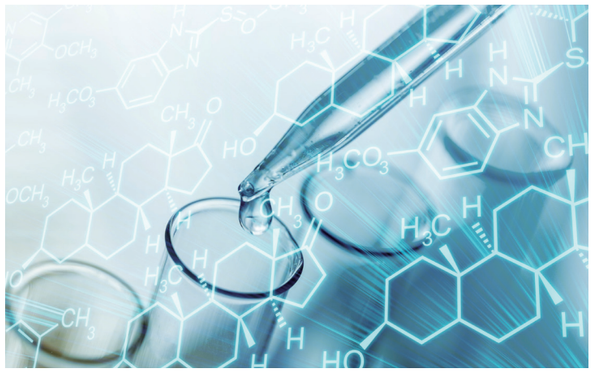


Specialty chemicals

AGC catalogue products

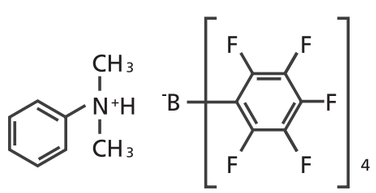
AGC has been providing high quality co-catalyst borates to polyolefin manufactures around the world for more than 15 years.

PF-4 and PF-41 have reliable chemical structure and are commonly used for liquid phase of metallocene catalytic reaction.

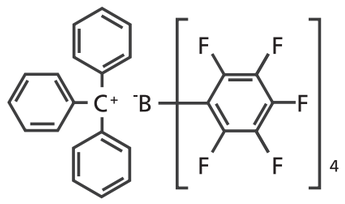


Borate Co-catalysts for Metallocene Catalytic Reaction

PF-4
(Cas No. 118612-00-3)



PF-41
(Cas No. 136040-19-2)



Kashima Chemical products

Kashima Chemical is a member of the AGC group and has been delivering high value-added products through its basic chemicals business since its establishment in 1968.

Kashima Chemical is a specialized chemical manufacturer of propylene derivatives, such as Epichlorohydrin, Allyl Chloride and value-added C3 derivatives.

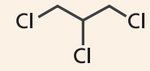
Propane derivatives

Chlorinated Products

2-chloropropane (IPC)
(Cas No. 75-29-6)

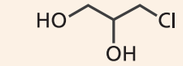
***trans*-1,3-dichloropropene (DCPEN)**
(Cas No. 10061-02-6)

1,2,3-trichloropropane (TCP)
(Cas No. 96-18-4)

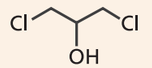


Hydroxylated Products

3-chloro-1,2-propanediol (MCH)
(Cas No. 96-24-2)

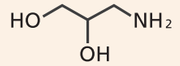


1,3-dichloro-2-propanol (1,3-DCH)
(Cas No. 96-23-1)

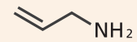


AMINO Products

3-amino-1,2-propanediol (APD)
(Cas No. 616-30-8)



3-amino-1-propene
(Cas No. 107-11-9)

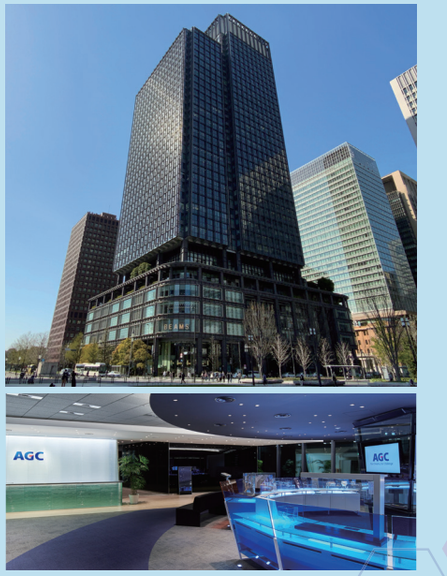


Global CDMO Network

AGC Inc.,

AGC Inc., is a world-leading manufacturer of glass, chemicals and high-tech materials, headquartered in Tokyo.

Starting from architectural glass,
we have expanded the business to automotive glass,
display glass, electronics materials, chemicals, ceramics
and are operating more than 30 countries and regions.



AGC Group's Sustainability

External evaluations for sustainability

Eco Vadis

AGC Wakasa Chemicals received gold rating in EcoVadis sustainability assessment.

AGC Group's GHG Emission Reduction Targets

Net zero carbon emissions in 2050 (Scope 1+2)

FY2020 → FY2030 → FY2050

FY2030 milestone (from the 2019 figure)

Scope 1	GHG emissions (Scope 1+2 emissions)	30% reduction
Scope 2	GHG emissions per unit of sales (Scope 1+2 emissions/sales)	50% reduction
Scope 3	GHG emissions (Total of Scope 3 emissions in categories 1,10,11,and 12)	30% reduction

Material Recycling

AGC recycles and reuses iodine, palladium and organic solvents by refining from wastes.
We realize eco-friendly and cost-reduced production by controlling the volume of waste materials.


Organic solvents


Iodine recycle in AGC group


Palladium recycle