Kingchem Life Science

Contract Development and Manufacturing
Liaoning, China

RSMs
Intermediates
Building Blocks

A Diversified CDMO

KINGCHEM: A DIVERSIFIED CDMO

WHAT WE ARE KNOWN FOR AS A CDMO

- ***A proven manufacturer*** *of custom synthesis & pharma chemicals*
- *The* ***innovative and cost-effective*** *application of technology to solve manufacturing challenges*
- ***Integrity:*** *Respect for customer IP, with dedicated IP controls*
- ***Western*** *management and* ***Eastern*** *operational costs*
- ***Well-established systems*** *and logistical operations*
- ***Effective*** *environmental, health & safety (EHS) compliance*
- ***Award-winning*** *customer service*

CORE COMPETENCIES

Kingchem is a diversified contract development and manufacturing organization with process R&D, project management, QA/QC and logistics capabilities. We'll set a schedule for you that moves quickly from route selection, process development and optimization, rapid lab process scale up, and finally through to commercial scale production. Throughout the process you will experience the benefits of our IP protection mechanisms and our proactive, flexible, and communicative style of operations.

Building A Great CDMO…

Kingchem is a different kind of company. We've always believed that delivering a quality product, on time, and for a fair price, is not enough. We push ourselves to go further. That's why, for over two decades, Kingchem goes Beyond the Chemistry™ It starts with:

Employees First: Our strength comes from the entrepreneurial spirit of our employees. At Kingchem we welcome all ideas and feedback. We are energized by change and enjoy challenges while staying agile and self-accountable. Our employees' innovative thinking, dedication, and friendliness create added value for our customers.

The Kingchem Corporate Social Responsibility Pledge: We make a conscientious, proactive commitment to EHS in all our operations. This includes quality of life for our employees, fairness, ethics, and respect in our business affairs. We respect the laws of the countries we operate in because our global community depends on us.

Our Strong Vision: Our customers trust us because we understand the personal service, proactive communications, and active problem solving required to successfully complete project after project.

Kingchem serves global markets in the Pharmaceutical, Fine Chemical and Specialty Chemicals industries.

KINGCHEM MANUFACTURING: TECHNOLOGIES

Kingchem is the leading manufacturer of fluoro-organic compounds in China.
Kingchem can use HF, KF, SF4, and highly selective fluorinating agents at commercial scale.

Key Technologies

Fluorination (HF, KF, SF_4)
Chlorination
Phosgenation
Cyclization
Hydrogenation
Claisen Condensation
Cryogenics (Lithiations)
Heterocycle Chemistry

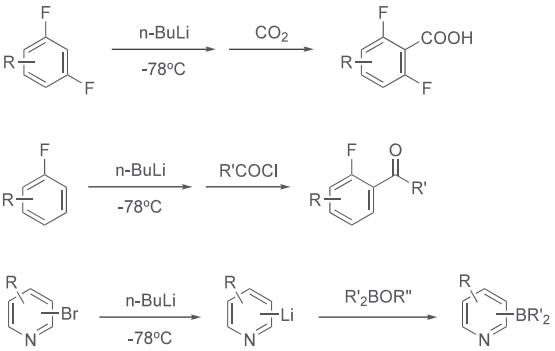
Other Supporting Technologies

Acylation
Alkylation
Boronic Acid Chemistry
Bromination
Chiral synthesis
Dieckmann reaction
Esterification
Etherfication
Friedel-Crafts Reaction
Grignard Reactions
Halogenation
Heck Reaction
Hoffmann Rearrangement
Hydrazine chemistry
Iodination
Michael Addition
Oxidation
Sandmeyer Reaction
Steroid Chemistry
Sulfonation
Suzuki Coupling
Ullman Reaction

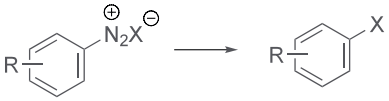
Temperature range: -100° C ~ +300° C
Pressure: Max. 10 MPa (Fluorination)
Max. 4 MPa (Hydrogenation)

KEY TECHNOLOGIES

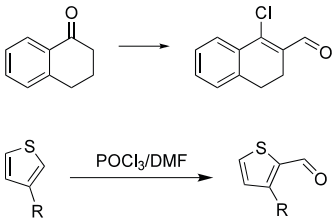
Cryogenic reaction



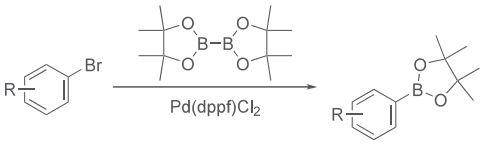
Sandmeyer reaction



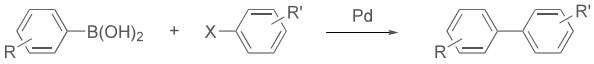
Vilsmeier-Haack reaction



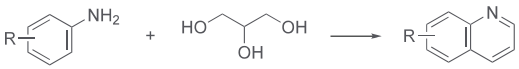
Palladium catalyzed borylation



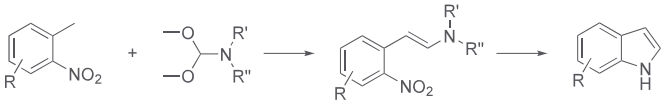
Suzuki coupling



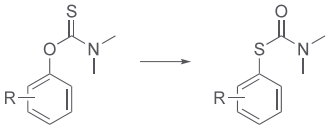
Skraup quinoline synthesis



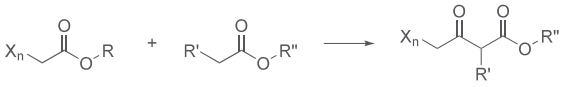
Batcho-Leimgruber indole synthesis



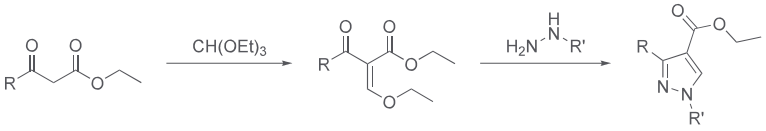
Newman–Kwart rearrangement



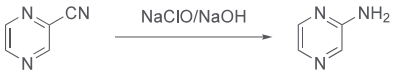
Claisen condensation



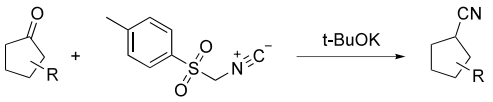
Knorr pyrazole synthesis



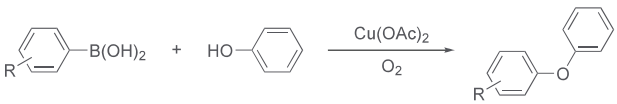
Hofmann rearrangement



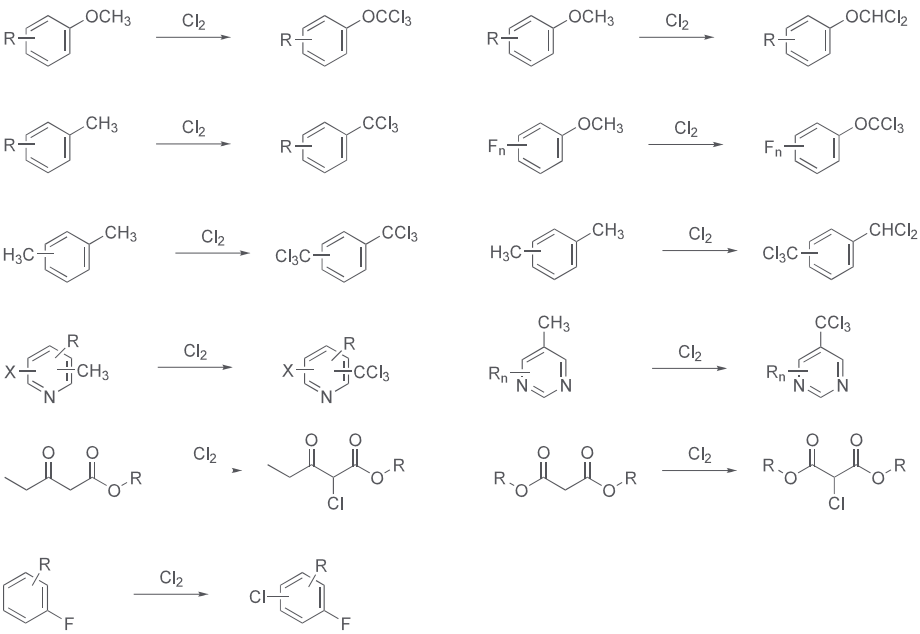
Van Leusen reaction



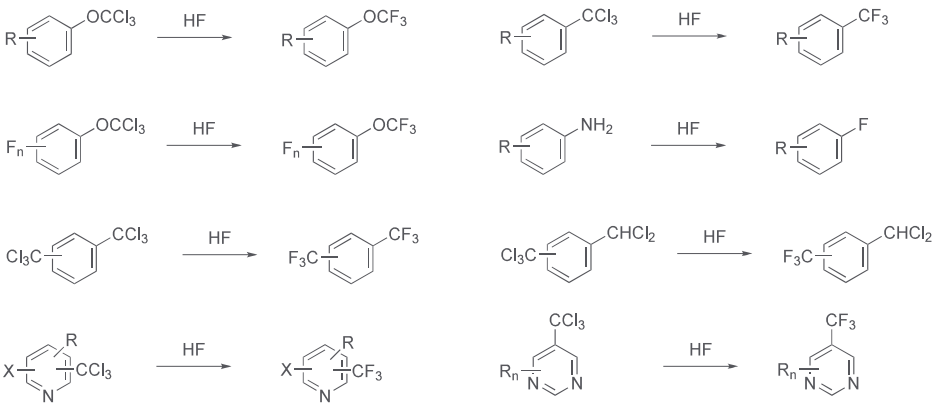
Chan-Lam coupling



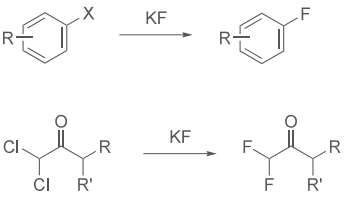
Chlorination



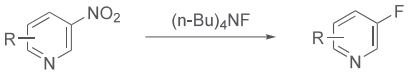
Hydrogen fluoride (HF) fluorination



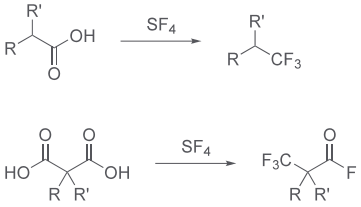
Potassium fluoride (KF) fluorination



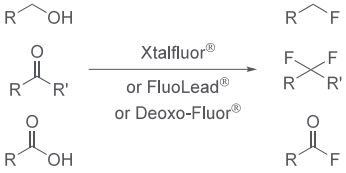
Tetrabutylammonium fluoride (TBAF) fluorination



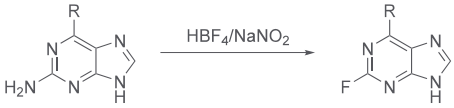
Sulfur tetrafluoride (SF_4) fluorination



Deoxyfluorination



Fluoroboric acid (HBF_4) fluorination

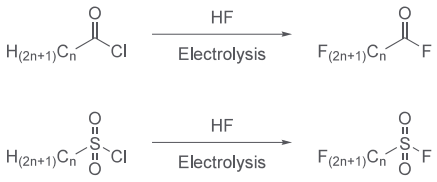


For three decades, Kingchem has worked to go Beyond the Chemistry.™

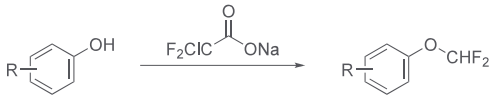
KEY TECHNOLOGIES

HF-complex fluorination

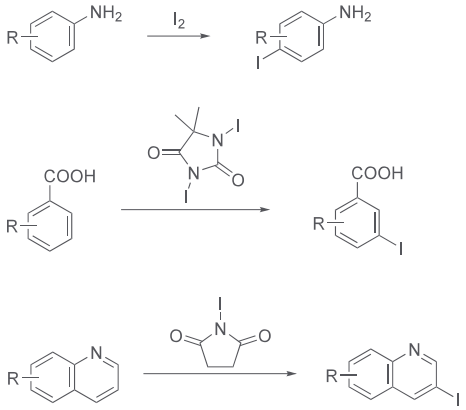
Electro fluorination



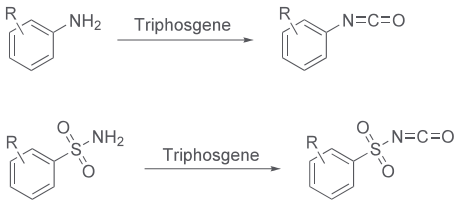
Fluoroalkylation



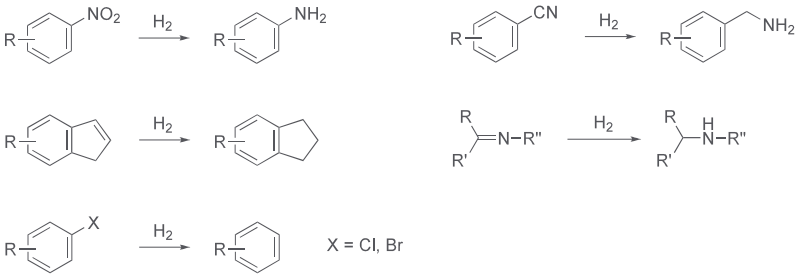
Iodination



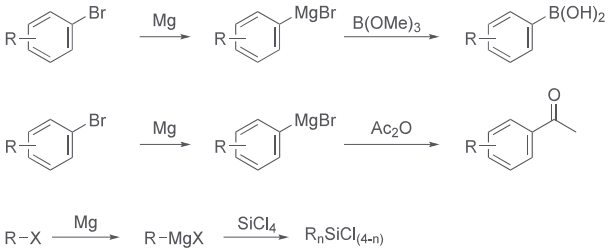
Phosgenation



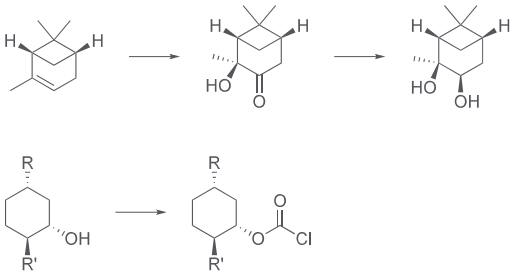
Hydrogenation



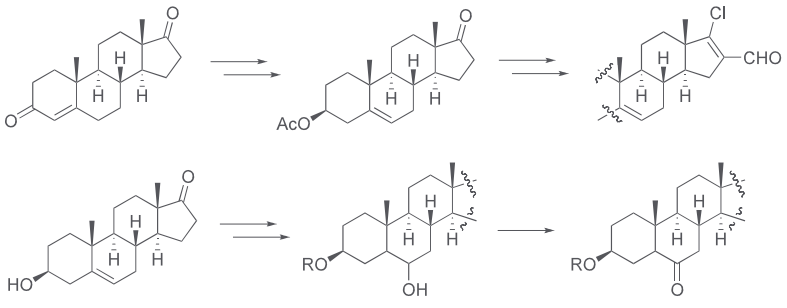
Grignard reaction



Chiral compounds synthesis



Steroid Chemistry



KINGCHEM DALIAN: RESEARCH & DEVELOPMENT

The Kingchem Dalian Research & Development Center provides integrated and cost-effective process R&D services including design of practical synthesis, improvement of existing chemistry, and development of commercial processes.

Kingchem's recently expanded 40,000 ft^2 (4,000 m^2) research and development facility located in Dalian (China) operates 100 research hoods and 35 walk-in hoods (companywide, Kingchem's current total capacity at all facilities is 150 research hoods and 50 walk-in hoods). Dalian's kilo lab facilities include 50-L and 20-L reactors, thin-film evaporator, fractional distillation equipment, and rotary evaporator. This allows us to rapidly scale up lab process to produce advanced intermediates in kilogram scale.

Our analytical group uses advanced instruments including NMR, ICP-OES, LC-MS, GC-MS, HPLC, GC, DSC and UV-Vis for product identification, impurity identification, in-process control, product testing, and release.

We continue to introduce advanced instrumentation, such as EasyMax for process optimization, RC1 and RSD for process safety tests. Kingchem's 100-member team of process development chemists and engineers excel at synthesizing advanced intermediates and developing commercial processes to be run at Kingchem's manufacturing facility in Fuxin. Typically, staff from Dalian will travel to the production facility to ensure the chemistry transfers smoothly.

Contract R&D

Custom Synthesis

Full In-house Analytical Capability

IP Protection

Process Development & Optimization

Project Management

Research & Kilo Lab

QUALITY SYSTEMS, PROJECT MANAGEMENT & IP

Quality Systems

Quality management systems at our Fuxin plant exceed ISO9001 which has long been in place for all operations including R&D, kilo lab, pilot plant, and production. Kingchem has successfully passed quality audits from top chemical and pharmaceutical companies, so we invite you to schedule a visit. To meet the requirements of our pharmaceutical customers, parts of ICH-Q7 have also been integrated into our quality management system focused on material management, cross contamination control, equipment qualification and maintenance, batch record, QC management, deviation management and change control management.

Project Management

Accountability, communication, transparency, and a proactive approach…

Kingchem manages your project in an efficient and confidential manner by having procedures in place that protect your intellectual property and develop your ideas from initial inquiry through evaluation and into the final manufacturing stages.

We recognized the importance of timely project updates, and we always work hard to meet your needs. At the beginning of the project, our staff will work closely with you to determine the mode and frequency of communication. Our project updates will cover what has been done since the last review period and an agreed path forward.

Your project will be fully supported by our well-trained, experienced chemists and engineers who hold a full range of academic and industrial credentials. Our Fuxin plant has about 10 workshops and over 700 personnel who stand ready to manufacture your key products. A project is completed successfully when it meets your specifications, the requested timeline, and project budget.

IP Protection

Confidentiality and Intellectual Property Control

The importance of Intellectual Property (IP) protection cannot be overstated. Kingchem takes extra precautions to protect our customers IP by:

- Requiring staff to sign Confidentiality Agreements as a prerequisite of their employment.
- Ensuring proper handling of confidential information and providing a secure environment through intensive staff training.
- Assigning a specific project number in place of a customer's name on documentation.
- Information handling is based on a need-to-know basis.
- Separating duties during R&D, Process Development, and Manufacturing as needed.
- Physical document security measures such as alarm systems, security guards, and security.

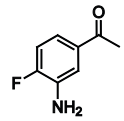
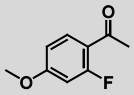
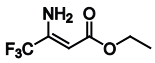
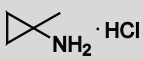
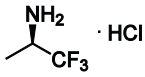
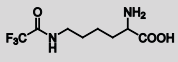
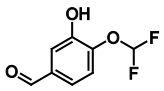
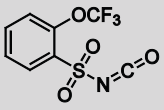
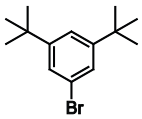
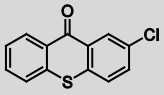
Kingchem & EHS

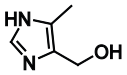
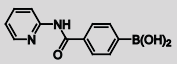
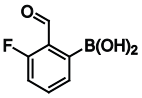
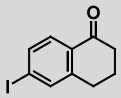
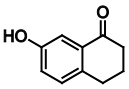
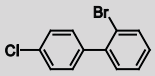
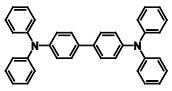
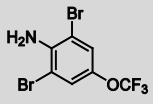
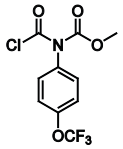
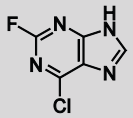
Kingchem maintains a conscientious and proactive responsibility for our staff, the environment, our customers, our stakeholders, and society at large.

We work hard to maintain and enhance our EHS related goals by developing safer and greener processes, upgrading EHS equipment at our facilities, improving employee training, good manufacturing practices, and improved standard operating procedures.

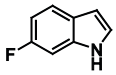
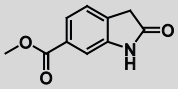
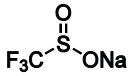
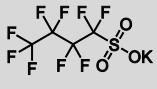
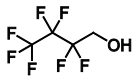
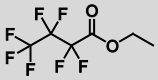
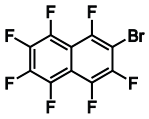
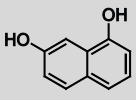
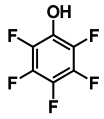
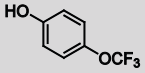
We hold all our business operations to a high level in terms of regulatory standard compliance, governmental regulation, security procedures, IP protection, and stakeholder communications. Responsible management systems regarding these are a core value.

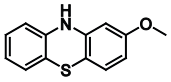
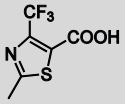
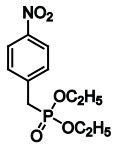
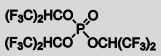
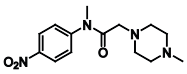
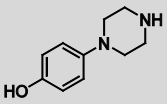
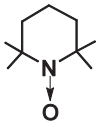
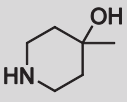
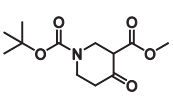
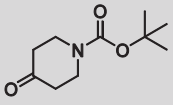
REPRESENTATIVE PRODUCTS

CAS #	STRUCTURE	PRODUCT NAME
2002-82-6		3’-Amino-4’-fluoroacetophenone
74457-86-6		2’-Fluoro-4’-methoxyacetophenone
372-29-2		3-Amino-4,4,4-trifluorocrotonic acid ethyl ester
88887-87-0		1-Methylcyclopropylamine hydrochloride
177469-12-4		(R)-1,1,1-Trifluoroisopropylamine hydrochloride
10009-20-8		N-6-Trifluoroacetyl-L-lysine
151103-08-1		4-Difluoromethoxy-3-hydroxybenzaldehyde
99722-81-3		2-(Trifluoromethoxy)-benzenesulfonyl isocyanate
22385-77-9		3,5-Di-tert-butylbromobenzene
86-39-5		2-Chlorothioxanthone

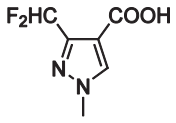
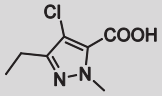
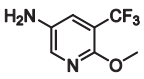
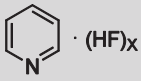
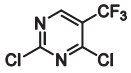
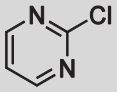
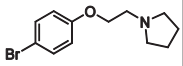
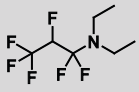
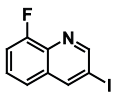
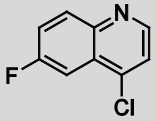
CAS #	STRUCTURE	PRODUCT NAME
29636-87-1		4-(Hydroxymethyl)-5-methylimidazole
850568-25-1		4-(Pyridin-2-yl-aminocarbonyl)-benzeneboronic acid
871126-15-7		3-Fluoro-2-formylphenylboronic acid
340825-13-0		6-Iodo-1-tetralone
22009-38-7		7-Hydroxy-1-tetralone
179526-95-5		2’-Bromo-4-chlorobiphenyl
15546-43-7		N,N,N’,N’-Tetraphenylbenzidine
88149-49-9		4-Amino-3,5-dibromo-(trifluoromethoxy)-benzene
173903-15-6		Methyl N-(chlorocarbonyl)-N-[4-(trifluoromethoxy)-phenyl]-carbamate
1651-29-2		6-Chloro-2-fluoropurine

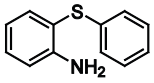
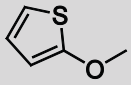
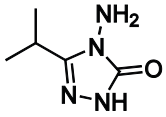
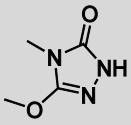
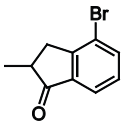
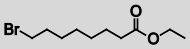
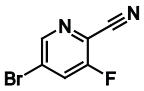
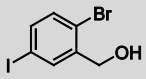
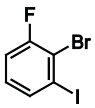
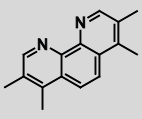
REPRESENTATIVE PRODUCTS

CAS #	STRUCTURE	PRODUCT NAME
399-51-9		6-Fluoroindole
14192-26-8		2-Oxindole-6-carboxylic acid methyl ester
2926-29-6		Trifluoromethanesulfinic acid sodium salt
29420-49-3		1,1,2,2,3,3,4,4,4 Nonafluoro-1-butanesulfonic acid potassium salt
375-01-9		2,2,3,3,4,4,4-Heptafluoro-1-butanol
356-27-4		Heptafluorobutyric acid ethyl ester
27041-17-4		2-Bromoheptafluoroaphthalene
575-38-2		1,7-Dihydroxynaphthalene
771-61-9		2,3,4,5,6-Pentafluorophenol
828-27-3		4-(Trifluoromethoxy)-phenol

CAS #	STRUCTURE	PRODUCT NAME
1771-18-2		2-Methoxyphenothiazine
117724-63-7		2-Methyl-4-(trifluoromethyl)-1,3-thiazole-5-carboxylic acid
2609-49-6		4-Nitrobenzylphosphonic acid O,O'-diethyl ester
66489-68-7		Tris-(1,1,1,3,3,3-hexafluoroisopropyl)-phosphate
1139453-98-7		N,4-Dimethyl-N-(4-nitrophenyl)-1-piperazineacetamide
56621-48-8		N-(4-Hydroxyphenyl)-piperazine
2564-83-2		2,2,6,6-Tetramethylpiperidine-1-oxyl, free radical
3970-68-1		4-Hydroxy-4-methylpiperidine
161491-24-3		1-tert-Butyl 3-methyl 4-oxopiperidine-1,3-dicarboxylate
79099-07-3		N-tert-Butoxycarbonyl-4-piperidone

REPRESENTATIVE PRODUCTS

CAS #	STRUCTURE	PRODUCT NAME
176969-34-9		3-(Difluoromethyl)-1-methyl-1H-pyrazole-4-carboxylic acid
127892-62-0		4-Chloro-3-ethyl-1-methyl-1H-pyrazole-5-carboxylic acid
1211584-76-7		5-Amino-2-methoxy-3-(trifluoromethyl)pyridine
62778-11-4		Hydrogen fluoride-pyridine complex
3932-97-6		2,4-Dichloro-5-(trifluoromethyl)-pyrimidine
1722-12-9		2-Chloropyrimidine
1081-73-8		N-[2-(4-Bromophenoxy)-ethyl]-pyrrolidine
309-88-6		N,N-Diethyl-(1,1,2,3,3,3-hexafluoropropyl)-amine
866782-59-4		8-Fluoro-3-iodoquinoline
391-77-5		4-Chloro-6-fluoroquinoline

CAS #	STRUCTURE	PRODUCT NAME
6764-13-2		2-Aminodiphenyl sulfide
16839-97-7		2-Methoxythiophene
96240-10-7		4-Amino-2,4-dihydro-5-(1-methylethyl)-3H-1,2,4-triazol-3-one
135302-13-5		2,4-Dihydro-5-methoxy-4-methyl-3H-1,2,4-triazol-3-one
174702-59-1		4-Bromo-2-methyl-1-indanone
29823-21-0		8-Bromooctanoic acid ethyl ester
886373-28-0		5-Bromo-3-fluoropyridine-2-carbonitrile
946525-30-0		(2-Bromo-5-iodophenyl) -methanol
851368-08-6		2-Bromo-1-fluoro-3-iodobenzene
1660-93-1		3,4,7,8-Tetramethyl-1,10-phenanthroline

Certifications

PRODUCTION SITE CERTIFICATIONS

- ISO9001: Certificate of Quality Management
- ISO14001: Environmental Management Certificate
- ISO45001: Health and Safety Management System

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