



Your partner for a world of chemistry

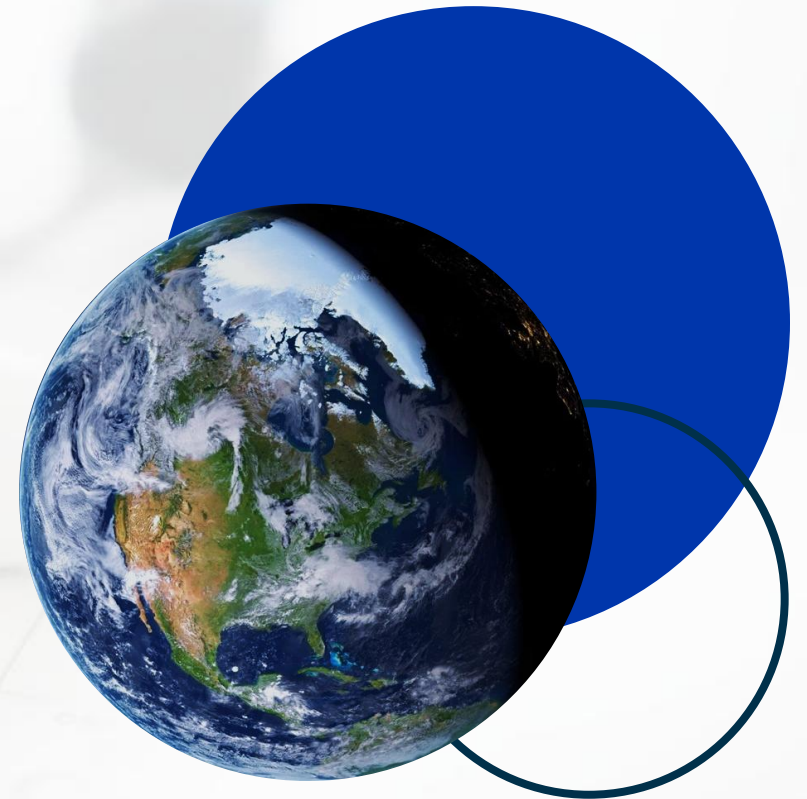
SOCMA Show

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Booth # 317



OUR CORE VALUE

Business

RESPECT

Treating each other with dignity & seeking human prosperity



INTEGRITY

Holding the highest standards & aiming to exceed expectations



INVESTMENT

Continually re-investing in capabilities, working hard, yet easy to work with



R&D & Manufacturing



CHEMICAL CHALLENGES

New routes & robust GMP, cryogenic chemistry & lithiation, phosgenation, flow, hydrogenation, metathesis, diazotization, & boronic-acid chemistries



DISTILLATION

Kingchem has a history of high purity, prominent distillation capabilities in the US & China



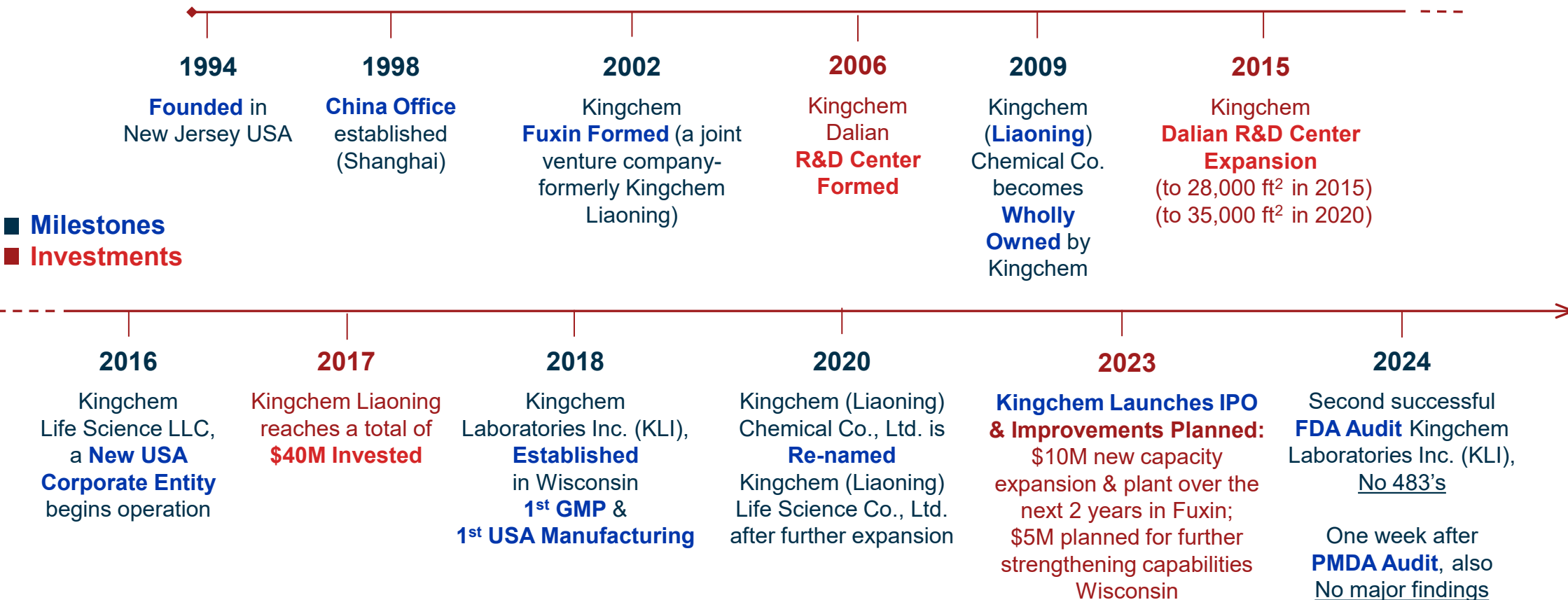
FLUORINATION

Kingchem is a recognized global leader in fluorination & chlorination technologies

History of Kingchem



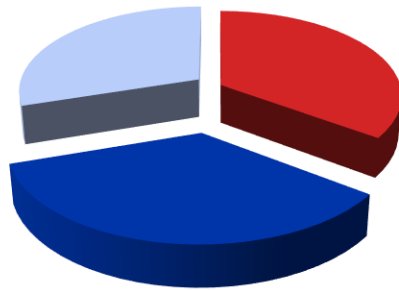
Kingchem is a **US-founded**, **US-majority owned**, **US-managed**, publicly-traded, global CDMO



Kingchem Company Metrics Today

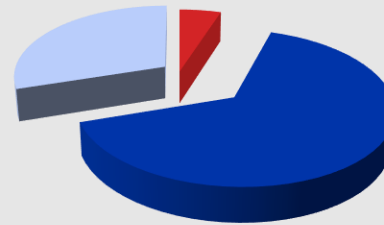


Markets



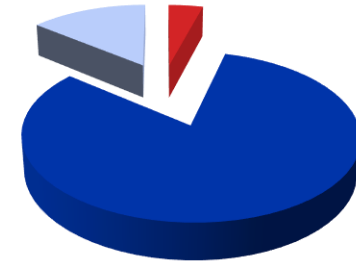
- North America
- Europe
- Asia Pacific

Revenue Allocation



- Specialty Chemicals
- Pharmaceutical Chemicals
- Agrochemical Intermediates

Global Employee Numbers



- Business - 25
- Pilot & Manufacturing- 500
- R&D - 85

Kingchem Business Locations Worldwide



Kingchem Laboratories, Inc.

St. Francis Wisconsin

Domestic R&D and Manufacturing

GMP Intermediates, APIs, Excipients

Kingchem Indiana
Business Development



Kingchem Frankfurt
Business Development

Kingchem (Liaoning) Life Science Co., Ltd.

Fuxin, Liaoning Province China

R&D and Manufacturing

RSMs, Early Intermediates,
Building Blocks

Kingchem Dalian

Dalian Liaoning Province China

R&D, Kilo-Scale Manufacturing



Kingchem Shanghai

Sales &
Customer Service

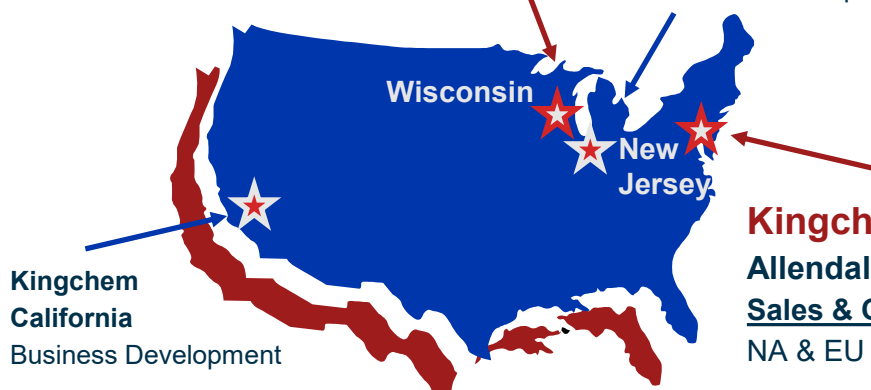
Asia-Pacific and
Sourcing Support

Kingchem Life Science LLC

Allendale, New Jersey

Sales & Customer Service Center

NA & EU



Kingchem
California
Business Development

Kingchem's R&D and Manufacturing Site Impressions



Wisconsin USA

- cGMP USFDA inspected 2024
- 2 acres, 33,000 ft² Building area
- Manufacturing Capacity: ~ 12 m³
- Solids: ~ 5 MT/Y
- Liquids: ~10 MT/Y
- Blends: ~100 MT/Y



Fuxin China

- 400 + Staff, ~40 US acres/160k m²
- Building area: 57,000 m²
- Manufacturing Capacity >1,500 m³
- ISO9001, ISO14001, ISO45001 Certified



Dalian China

- 35,000 ft² R&D Space
- Analytical development
- Kilo labs
- Safety assessment lab



Dalian Suburbs (FUTURE SITE)

- Land owned by Kingchem
- (12.6 acres/51,000 m²)
- Ground-broke, Phase 1



Continuity Through All Phases of Development



Wisconsin, Dalian, Fuxin

Process Development
From grams to 1 kg

R&D



Wisconsin, Dalian, Fuxin

Process Optimization
From 1 kg to 10 kg

Kilo



Wisconsin & Fuxin

Initial Commercialization
From 10 kg to 1000 kg

Pilot



Wisconsin & Fuxin

Full Commercial Scale
From 1 MT to >1000 MT

Full

Kingchem offers reliable fully-integrated R&D & Manufacturing at all scales in the USA or China

Kingchem's R&D and Manufacturing Site Impressions



Fuxin
China



- 400 + Staff, ~40 US acres/160k m²
- Building area: 57,000 m²
- Manufacturing Capacity >1,500 m³
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Manufacturing Capabilities in China

- Broad chemical capabilities on industrial-scale
- New \$2.5 MM Tech Center with R&D & kg-labs for tech transfer. QA, QC labs (ICP OES)
- Manufacturing capacity over 1,500 m³ incl. DCS systems
- High & Low-temperature capabilities (-100 to 300 °C)
- Pressure: Max. 10 MPa fluorination 4 MPa hydrogenation
- Two power substations & steam cap: 70mt/h 620 MW
- Distillation with up to 30 theoretical plates
- Water purification plant produces 50,000 MTs per day
- Solar-power reduced 3 million kg CO₂ in 2023
- Warehouse with controlled RT and cold
- Solids and Gas treatment on-site
- Two-level wastewater treatment (Kingchem's & park's)

Kingchem's R&D and Manufacturing Site Impressions

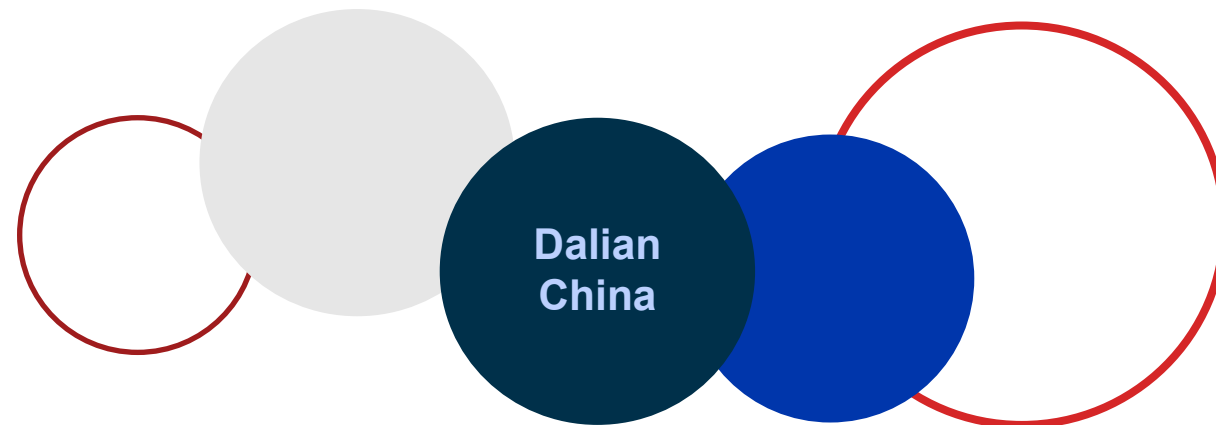


R&D and Scale-up Capabilities in China

- Full analytical capability in multiple suites
- Broad chemical capabilities and IP protection experience
- Facility with >100 hoods, 37 walk-in
- Two kilo labs (sizes 20, 50, & 100L)
- SF₄, fluorination, and chlorination chemistry labs (Fuxin R&D)
- Flow with broad MoC (fixed-bed, microchannel, CSTR +)
- R&D & Kilo mfg. including pressure reactors with diverse MoC
- Column purification capabilities
- Distillation capabilities and thin film evaporators
- Safety labs (EasyMax, RC1, DSC, RSD, glove-box, electro +)



- 35,000 ft² R&D Space
- Analytical development
- Kilo labs
- Safety assessment lab



Kingchem's R&D and Manufacturing Site Impressions



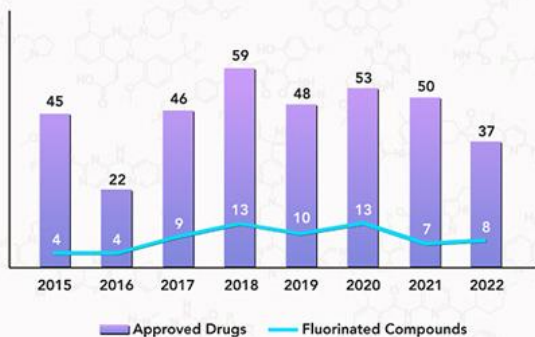
- cGMP USFDA inspected 2024
- 2 acres, 33,000 ft² Building area
- Manufacturing Capacity: ~ 12 m³
- Solids: ~ 5 MT/Y
- Liquids: ~10 MT/Y
- Blends: ~100 MT/Y

Wisconsin
USA

R&D and Manufacturing in the USA

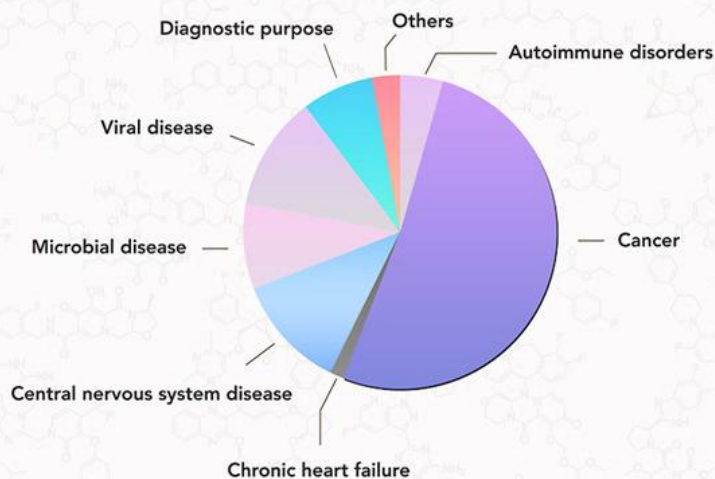
- Full Analytical suite
- FDA audited Quality (2 commercial API's)
- Broad chemical capabilities and experience
- R&D & safety labs (DoE, DSC, EasyMax)
- Flow suite (Photo, Microwave, Electro, in-line NMR)
- Two cGMP kilo labs (reactor sizes from 2L to 100L)
- Two cGMP manufacturing bays (50 gal - 1,500 gal)
- Low-temperature capabilities
- Versatile solid handling with AFD & glove box
- Distillation bays with up to 25 theoretical plates
- Purified water system (RO, UV, in-line TOC analyzer)
- ISO 8 packaging room, ISO 7 sampling booth
- Warehouse with controlled RT and cold storage

Specialty Capability, Fluorination



Fluorination is Kingchem's core competence

- Approximately 20% of pharmaceuticals and 50% of agrochemicals marketed are fluorinated compounds.
- 2021 – 7/50 approved drugs are fluorinated compounds
- 2022 – 8/37 approved drugs are fluorinated compounds



Fluorination

Nucleophilic

Electrophilic

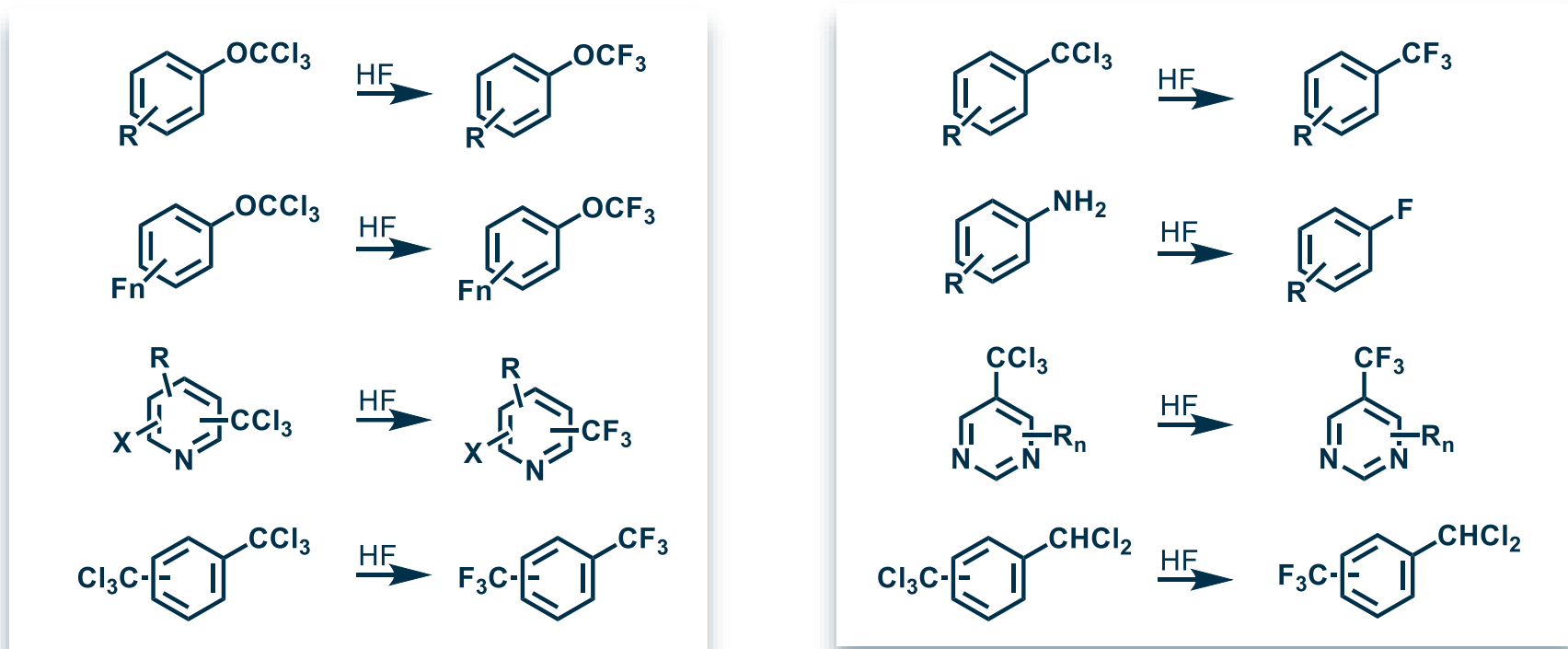
Electrolysis



Fluorination Chemistry

HF Fluorination

Production history since 2002; Kingchem Chemists have >30 years manufacturing experience



Units: 1000 L & 3000 L,
10 reactors, 16 m³

MOCs: MnR, Ni6,
Hastelloy, Q345R

Pressure: <10 MPa
Temp: < 260 °C

Fluorination Chemistry

Deoxy-fluorination with SF₄



Generate R₂N-SF₃ *in situ*



Fluorination Chemistry

SF₄ Fluorination Workshop K106

Temp: down to -60 °C
Pressure: up to 4 MPa



Lab-scale
(2L SF₄ cyl/ charge)



Pilot-Scale
500 L (Hastelloy)

SF₄ Fluorination Workshop K105



Production-Scale
2000 L (Hastelloy)

Chemistry Competencies on Commercial-Scale



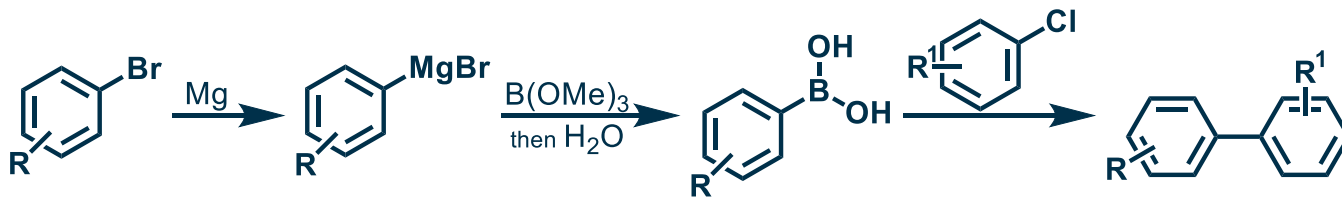
- Acetoacetylation
- Alkylation
- Amino alkylation
- Boronic chemistry
- Chiral synthesis
- Cryogenic reaction
- Diazotization
- Dieckmann reaction
- Etherification
- Esterification
- Fluorination
- Freidel-Crafts reaction
- Grignard reaction
- Heck Reaction
- Halogenation (additional)
- Halomethylation
- Hofmann rearrangement
- Hydrazine chemistry
- Michael addition
- Nitration
- Organolithium chemistry
- Oxidation
- Sulfonation
- Suzuki coupling
- Ullmann reaction
- Low-Temperature Reactions
- Fluorination
- Hydrogenation
- Phosgenation
- Skraup Quinoline Synthesis
- Van Leusen Reaction



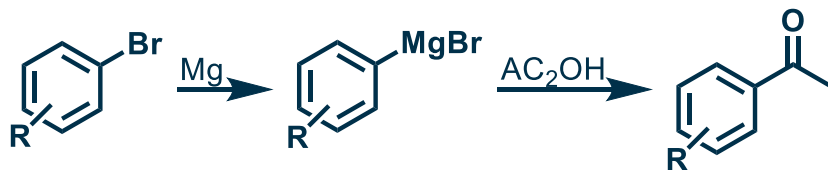
Kingchem Liaoning Life Science Co.
Fuxin, Liaoning Province, China

Grignard Reactions

Core Competencies - Grignard Reaction



100 L, 1000 L x 3
reactors



Kingchem Production Capabilities



Kingchem **Core Technology**

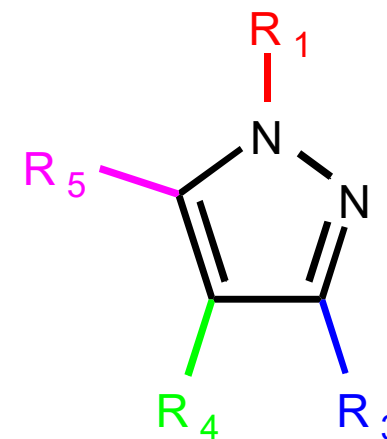
Low-Temperature Reactions

Units:	100 L, 1000 L, 2 x 3000 L
Pressure:	1.0 to 4.0 Mpa (145 to 580 psi)
Temperature:	-20 °C to -78 °C
Refrigeration:	-78 °C to -20 °C
Liquid Nitrogen:	-120 °C
Pressure:	up to 1.6 MPa



Pyrazole Manufacturing

- Our R&D has worked on dozens of structurally different pyrazoles over the last several years.
- Kingchem has developed in-house technology as well as patented some of our syntheses for pyrazoles.
- Kingchem has successfully commercialized a pyrazole, producing more than 10 MT annually.
- R groups include alkyl, aromatic, halogens, amines, carboxylic acids, and other functional groups.



Royal Treatment

01.

Understanding Needs

Kingchem is dedicated to customers' expectations & requirements

03.

Communication & Hard Work

Kingchem communicates and commits to overcome challenges



02.

Suitable Solutions

Kingchem leverages talents & offers solutions that you help design

04.

Continual Improvement

Kingchem welcomes feedback for even greater practices & capabilities

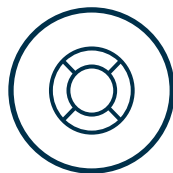
Looking for a trusted partner?

Choose Kingchem



Reliable Pharma & Chemical Services >30y

Integrity above all else with the highest IP controls, well-established systems and logical operations, reliable internal back integration and vendor network, & effective EHS compliance



Flexible R&D and Manufacturing

Vertical integration with seamless back integration and support through all phases & manufacturing scales. Product development with Western management & Eastern operational costs



Innovative & Cost-Effective Technology

History of solve manufacturing challenges (even with hazardous or difficult chemistries) with our broad capabilities:

- ✓ R&D & Kilo-Labs
- ✓ Custom Synthesis
- ✓ Process R&D & Optimization
- ✓ From R&D to Production-Scale Manufacturing in China
- ✓ From R&D to Production-Scale **FDA Audited GMP Manufacturing in the USA**
- ✓ Full In-House Analytical R&D & Testing
- ✓ Attentive & Thoughtful Project Management
- ✓ Challenging Chemistry Know-How





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