



**FINE
INGREDIENTS
(PHARMA AND OTHERS)**



Jubilant, with its stronghold in the Fine Ingredients business, offers value added Pyridine & Picoline based Advance Intermediates mainly for Pharmaceuticals & other Healthcare industries including Food, Nutrition etc.

All of its offerings are benchmarked with internationally acceptable standards. The company's core strengths are - a dedicated in-house R&D team, forward integrated value added Advance Intermediates and improved quality products that are customizable and ensure long term business sustainability. These strengths give the company a cost leadership advantage and a competitive edge over others.

BUSINESS VERTICALS

Fine Ingredients

The business offers over 50 commercial Pyridines, Picolines, Piperidine based intermediates which are used globally by Pharmaceutical, Healthcare, Electronics and other industries and have a regular clientele. The business is already a global leader in 11 of its intermediates and is striving to make other products fall in the same league.

Custom Manufacturing

The business provides Process R&D, Scale-up and Manufacturing Services to Pharmaceutical Innovators for value added Advance Intermediates. The Company applies Design for Six Sigma (DFSS) and Design of Experiments (DOE) concepts to develop processes with emphasis on environmental impact, scalability, ease of operation and robustness. These processes are:

- Route design, process development and process optimization from Phase I to III
- Process improvement for launched products
- Regulatory and Analytical support required for CMC section of registrations

Antimicrobial

Using one of its Chlorinated Pyridine (2-CP), the business has developed Zinc Pyrithione which is an ingredient used in shampoos as an anti-dandruff compound, in water based exterior paints emulsions and pharmaceutical creams and ointments for skin

ailments as biocide. The business also has CPC (Cetyl Pyridinium Chloride) which is used as antimicrobial compound for oral care and in many other uses. The business has plans to develop and expand its list of Antimicrobial products used in selected industries like Paints, Personal Care, and Water treatment applications.

WHY JUBILANT?

Research & Development

Fine Ingredients business has 2 R&D facilities located in Gajraula (UP) and Noida (NCR). R&D facilities have fully equipped analytical laboratory with advance equipment including: NMR, XRD, Reaction Calorimeter, LC-MS, Prep HPLC, Particle Size Analyzer, Optical Microscope, Stability Chambers, Polarimeter, IR, DSC, TSC etc. All projects in R&D are coded and distributed to maintain strict confidentiality.

Chemistry & Technology Platforms

We have developed several chemistry platforms and have also developed expertise in the following niche technologies - Amination (Chichibabin reaction), Grignard Reaction, Sodamide/Sodium Methoxide Reaction, Quarternisation, Photochlorination, Halogenation & Dehalogenation, Vapour phase Rxn (up to 450°C), High Pressure Reaction, Liquid & Vapour phase Chlorination, Polychlorination, Bromination, Fluorination using KF & HF, Oxime Reaction and many more. Recognized for its continuous innovation over the last 12 years, the Fine Ingredients business has been granted 34 process patents in various countries including India, Japan, USA, UK, Ireland, China and Switzerland.

Manufacturing

Fine Ingredients business has one Kilo-Lab cum Pilot Plant located at Gajraula (near Delhi) and 11 Manufacturing plants located at 3 sites - Gajraula (near Delhi), Ambarnath (Maharashtra) & Bharuch (in Gujarat state). New GMP Compliant Facility to be commissioned at Bharuch by 2017.

The Kilo-Lab cum Pilot Plant has reactors ranging from 20L to 630L (Including Glass assemblies and Cryogenic reactors, Autoclaves (58 Kg/cm² and 280°C). Commercial plants have over 100 reactors (MSGLR, SS, Hastelloy and Cryogenic) size ranging from 1KL to 14KL with total reactor volume of about 600 KL. At these facilities operations are carried out at both very high (450°C) and very low (-80°C) temperatures. DCS process control systems are used widely at these plants.

Quality, Safety and Environmental Protection are the foremost commitments at Jubilant's manufacturing plants. Conscious efforts are constantly undertaken to build efficiencies and economies of scale without compromising on quality.

All of the Company's manufacturing plants follow global standards of best manufacturing practices. Jubilant plants are ISO 9001:2008, 14001:2004 & OHSAS 18001:2007 certified. They also have NABL accredited QC laboratories with Standard ISO/IEC 17025:2005 certification. Jubilant contributes to the planet's most precious resource, water, by 100% recycling with the use of latest technologies.

Sustainability

Low Carbon Footprint

The building blocks of Fine Ingredients business i.e. Pyridine & Picoline, are produced using biomass route (Molasses) - which has reduced carbon footprints in the range of 10% to 30% w.r.t other manufacturing route. By using Green Chemistry Toolbox along with Solvent Recovery Plants, Multi-effect Evaporators and Waste Heat Boilers, Jubilant is increasing productivity by drastically cutting waste.

Ecovadis

Registered at Ecovadis for integrating our sustainability framework which helps us to continuously monitor and improve our sustainability standard for the benefit of our customers, stakeholders and environment. Our Gajraula facility has been awarded Gold Rating with performance evaluated among top 5% companies globally .

Project Management

An exclusive Project Management Office (PMO) has been introduced to improve overall co-ordination for Pharma Custom Manufacturing. Each project in Pharma Custom Manufacturing are handled with care by a certified Project Manager (PM). Designated PM is the single point of contact for customers. The processes are structured to map project progress, documentation etc., with the help of Enterprise Project Management (EPM) software.

Global Reach

Jubilant has a noticeable global footprint, owing to its network of offices and warehouses in India, USA, Europe and China. This network is backed by a strong supply chain, ensuring consistent supply of products to various locations in the world.



PRODUCT PORTFOLIO

S.no.	Products	End Use
1	N-(5-Amino-2-Methylphenyl)-4-(3-pyridinyl)-2-Pyrimidinamine	Imatinib
2	5-Methyl-2(1H)-Pyridinone	Pirfenidone
3	Diethyl-3-pyridylborane	Abiraterone Acetate
4	N-(2-Chloroethyl) piperidine hydrochloride	Cloperastine, Fenpiverinium bromide, Picoperine, Pipethanate, Pitofenone, Raloxifene
5	Pyridine-3-sulfonic acid	New Drug, Electroplating Application
6	Picolinates (Zinc, Chromium, Iron)	Health Supplements
7	2 Amino 3 Hydroxy Pyridine	Paliperidone, Cosmetics
8	N2, N2-Diethyl-6-Methyl-2,5- Pyridine Diamine Dihydrochloride PYCD	Electrochemical, Dyes, INK
9	3-Hydroxypiperidene	Benidipine, menpenzolate bromide
10	2-Aminomethyl piperidene	Flecainide acetate
11	2-Bromo-5-Methyl pyridine	Abametapir
12	2-Bromo-3-Methyl pyridine	Lumacaftor
13	2,3-Pyridine dicarboxylic acid	Moxifloxacin, Imazepyr
14	2,4-Pyridine dicarboxylic acid	Cosmetic
15	2-Chloropyridine	Chlorpheniramine, Methyl phenidate, Chlorpyrilene, Pyriproxyfen
16	2-Amino-5-methyl pyridine	Zolpidem, Pirfenidone, Chlorfluazuron, Fluazuron, Haloxyfop
17	Cetyl Pyridinium Chloride	Anti-Microbial in oral care, Preservatives for Cosmetic Application
18	2-Aminopyridine	Piroxicam, Risperidone, Tenoxicam, Mepyramine, Methapyrilene, Fenyramidol, Sulphasalazine, Chloropyrilene, Mepifylline, Dabigatran, Clodinafop, Imazosulfuran, Rimsulfuron, Sulfosulfuron
19	Azacyclonol	Fexofenadine, Terfenadine, Diphepanil methylsulfate
20	2,3-Lutidine	Lansoprazole, Rabeprazole, Moxifloxacin
21	4-(Dimethylamino) pyridine	Zidovudine, Abacavir, Lamivudine, Montelukast, Docetaxel, Paclitaxel, Alfentanil, Carfentanil, Cladribine, Chlorpyrifos
22	3,5-Lutidine	Omeprazole, Esomeprazole, Rupatadine
23	2,3,5-Collidine	Omeprazole, Esomeprazole
24	5-Ethyl-2-Methylpyridine	Etoricoxib, Pioglitazone, Niacin, Niacinamide
25	2,4,6-Collidine	Vitamin D, Dydrogesterone
26	2,4-Lutidine	Lufironil, Argatroban
27	2,5-Lutidine	Sunepitron
28	2,6-Dibromopyridine	Acrivastine
29	2,6-Lutidine	Ampicillin, Amoxycillin, Gemcitabine, Everolimus, Clopidol, Nifurpirinol, Pirmenol, Pirozadil, Pyricarbate, Tetomilast
30	2-Acetylpyridine	Doxylamine

PRODUCT PORTFOLIO

S.no.	Products	End Use
31	2-Amino-3-methyl pyridine	Pemirolast
32	2-Amino-4-methyl pyridine	Nevirapine, Picketopfen, Rifaximin
33	2-Amino-5-chloro pyridine	Zopiclone, Eszopiclone, Etoricoxib, Metrenperone, Clodinafop
34	2-Amino-6-methyl pyridine	Nalidixic acid, Rimazolium metilsulfate
35	2-Aminomethyl pyridine	Flecainide acetate
36	2-Bromopyridine	Carbinoxamine, Chlorpyramine, Disopyramide, Pipradrol, Triprolidine, Lafutidine, Piclozotan, Taprizosin, Atazanavir
37	2-Hydroxymethyl pyridine	Bevonium Metilsulfate, Pineprofen, Ibuprofen piconol
38	3,4-Lutidine	Pentazocine, Phenazocine
39	3,5-Dimethylpiperidine	Pirmenol hydrochloride, Tilmicosin
40	3-Acetylpyridine	Telithromycin, Imatinib mesylate, Metyrapone
41	3-Aminomethyl pyridine	Nicotinyl alcohol, Picotamide, Acetamiprid
42	3-Bromopyridine	Abiraterone
43	3-Hydroxymethyl pyridine	Indinavir, Nicofibrate
44	5-Methylnicotinic acid	Rupatadine
45	Ethyl Isonipecotate	Fexofenadine, Maropitant
46	Ethyl Nipecotate	Azatadine, Tipepidine, Tiagabine
47	Isonicotinic Acid	Aconiazide, Cefsulodin, Iproniazid, Metrenperone, Nialamide, Pasiniazid, Terfenadine, Trimedoxime, Iloperidone, Fampridine, Forchlorfenuron, Inabenfid
48	Isonipectic Acid	Declenperone, Metrenperone, Risperidone, Ocaperidone, Paliperidone
49	Picolinic Acid	Bepotastine, Pirmenol, Rimiterol, Sorafenib, Piberaline fumarate
50	Piperidine Hcl	Benproperine, Bietamiverine, Bimoclolmol, Biperiden, Butopiprine, Carpipramine, Clocapramine, Cloperastine
51	Pyridine Hydrobromide	Cephalosporins, Cephalaxin
52	Pyridine Hydrochloride	Cephalosporins, Cephalaxin
53	Pyridine-2-Aldehyde	Bisacodyl, Sodium picosulfate, Pralidoxime iodide, Carbinoxamine
54	Pyridine-3-Acetic Acid	Risedronic acid, Pyrifeno
55	4-Amino pyridine	Indoramin; Lexipafant; Milverine; Octenidine; Pinacidil; Timiperone Trimedoxime
56	4-Hydroxymethyl pyridine	Trimedoxime
57	4-Nitro-2,3-Lutidine-N-oxide	Lansoprazole; Rabeprazole
58	5-Methyl Nicotinic Acid Hcl	Rupatadine
59	Pyridine-4-aldehyde	Donepezil
60	2-Methoxy pyridine	Pyramax
61	3,5-Dibromopyridine	New Drug
62	2,6-Picoloxylidide	Anaesthetic
63	2-Chloro-6-methoxypyridine	Pyributicarb
64	2,6-Dichloropyridine	Enoxacin, Flupirtine, Liranaftate, Pyributicarb
65	3-Methyl piperidine	New Drug

LIFE SCIENCE INGREDIENTS LOCATIONS

OFFICES

Corporate Office

1A, Sector 16A, Noida - 201 301,
Uttar Pradesh, India
Tel : +91 120 4361000
Fax: +91 120 4234881
Email: support@jubl.com

Belgium

Jubilant Life Sciences N.V.
Guldensporenpark 22 Block C,
Gelijkvlovers Links, 9820 Merelbeke, Belgium
Tel : +32 9 233 1404
Fax: +32 9 233 0016

China

Jubilant Life Sciences (Shanghai) Ltd.
Room No. 3403, Hongkong plaza, South Tower,
283, Huai Hai Zhong Road, Shanghai -200021,
China
Tel : +86 21 6390 7388
Fax: +86 21 6390 7399

USA

Jubilant Life Sciences USA Inc.
790 Township Line Road
Suite 120, Yardley,
Pennsylvania 19067, USA
Tel : +1 908 658 9988
Fax: +1 908 658 9927

MANUFACTURING FACILITIES

India

Uttar Pradesh

Bhartiagram Gajraula,
Distt. Amroha - 244223,
Uttar Pradesh, India
Tel : +91 5924 252 353-60
Fax: +91 5924 252 352

Gujarat

Block 133, Village Samlaya, Taluka Savli,
Distt. Vadodara - 391520, Gujarat, India
Tel : +91 2667 251 361, 251 563-4
Fax: +91 2667 251 305

Plot No. 5 Vilayat GIDC, Taluka Vagra,
Bharuch - 392012, Gujarat, India
Tel : 02641 - 281500 (30 Lines)
Fax: 02641 - 281515

Maharashtra

Village Nimbut, Rly. Stn. Nira
Distt. Pune - 412102,
Maharashtra, India
Tel : +91 2112 269 155-57
Fax: +91 2112 269 154

N-34, MIDC, Anand Nagar,
Ambarnath - 421506,
Maharashtra, India
Tel : +91 251 2620437-438
Fax: +91 251 2620439

Jubilant Life Science Ingredients is a Partner of Choice for manufacture and supply of Advance Intermediates, Fine Ingredients, Crop Science Ingredients, Life Science Chemicals & Nutritional Products.

Serving customers in over 70 countries, we are among global leaders in Vitamin B3, Pyridine and its eleven derivatives and Acetyls.

Corporate Office: 1A, Sector 16A, Noida - 201301, U.P., INDIA,
Tel: +91 120 4361000 Fax: +91 120 2516628.
You can also write to us for business specific inquiries at: SILSC@jubl.com
To know more logon to: www.jubl.com

