



**ADVANCE
INTERMEDIATES**
(PYRIDINES, PICOLINES,
CYANOPYRIDINES & PIPERIDINE)

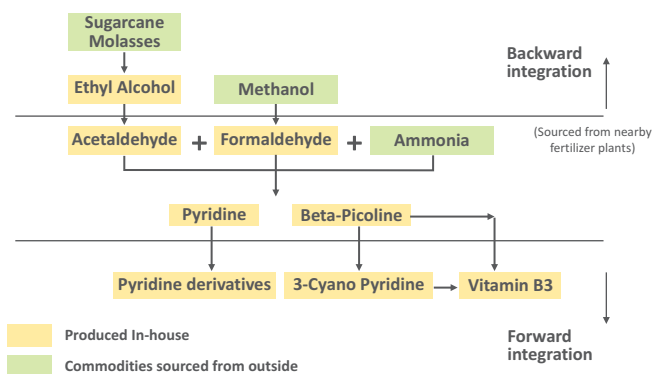


The Advance Intermediates business of Jubilant Life Sciences manufactures Pyridine, Picolines, Cyanopyridines and Piperidine. These are used as Advance Intermediates/building blocks for the production of a range of agrochemicals, pharmaceuticals, dyes, solvents, metal finishes, fine chemicals, etc. The products are trusted by more than 275 global pharmaceutical, agrochemical and other industrial customers who rely on Jubilant's consistent quality and service. Their trust and support has helped Jubilant grow to the Number 1 position in the market for Pyridine & its derivatives globally.

Key Strengths

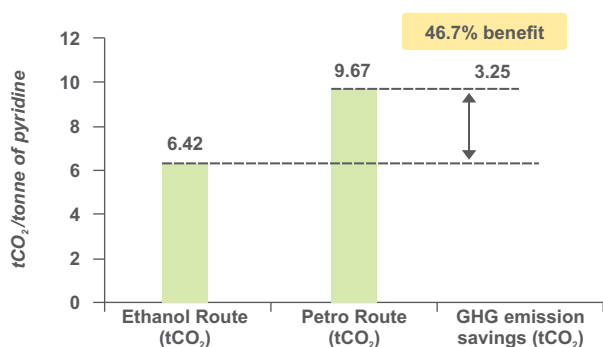
Vertical Integration

The Company has over 30 years of experience in Pyridine chemistry and is the only manufacturer of Pyridines and Picolines with **complete forward and backward integration**.



Low Carbon Footprint

The Company manufactures Pyridines via the **biomass route**, using agricultural feedstock which gives it a benefit of 46.7% in carbon footprint as compared to the conventional petroleum route.



Manufacturing Prowess

The world scale plant located at Gajraula, UP (approximately 120 kms from Delhi), is Zero Discharge and ISO 9000, ISO 14001 & OHSAS 18001 certified.

Product Details

Pyridine

Pyridine, a basic organic chemical, is a versatile building block and an excellent solvent used in agrochemical, pharmaceutical and other industries. It is completely soluble in Water, Alcohol, Ether and Benzene. It acts as an acid scavenger and can catalyse reactions.

Applications

- The largest application of Pyridine globally is in the manufacturing of Bipyridyl Herbicides: Paraquat and Diquat
- Pyridine is used in the manufacturing of agrochemical: Symtet, which in turn is used for the manufacturing of insecticide Chlorpyrifos
- Pyridine is also used in industries like: dyestuffs & textiles, agrochemicals, pharmaceuticals and electronics
- Pyridine is used as a solvent, and for metal finishes

REACH Status: Registered as Full Phase in and Transported Isolated Intermediate (TII)

Alpha Picoline

Alpha Picoline, also called 2-Picoline or 2-Methylpyridine, is a clear organic liquid. It is completely soluble in Water, Alcohol and Ether.

Applications

- The largest application of Alpha Picoline is 2-Vinylpyridine monomer (2 VP), which is used in the manufacturing of VP Latex
- Other application of Alpha Picoline is in the manufacturing of agrochemicals: Picloram and Nitrpyrin
- Alpha Picoline is also the raw material for 2-Cyanopyridine
- It is also used in the pharmaceuticals industry

REACH Status: Registered as Full Phase in and Transported Isolated Intermediate (TII)

Beta Picoline

Beta Picoline, also called 3-Picoline or 3-Methylpyridine, is a clear organic liquid. It is completely soluble in Water, Alcohol and Ether.

Applications

- The largest application of Beta Picoline is in the manufacturing of Vitamin B3 (Niacinamide)
- Beta Picoline is a significant intermediate for agrochemicals like Chlorpyrifos, Haloxyfop and Fluazifop Butyl
- Also used in pharmaceutical intermediates

REACH Status: Registered as Full Phase in and Transported Isolated Intermediate (TII)

Gamma Picoline

Gamma Picoline, also called 4-Picoline or 4-Methylpyridine, is a clear organic liquid. It is completely soluble in Water, Alcohol and Ether.

Applications

- Gamma Picoline finds application in the manufacturing of several catalysts such as DMAP and the drug INH & other pharmaceuticals
- Gamma Picoline is used in the manufacturing of 4- Vinylpyridine (4 VP)
- Gamma Picoline is also the raw material for 4-Cyanopyridine

REACH Status: Pre-registered

2-Cyanopyridine

2-Cyanopyridine is a white to off-white solid at room temperature with almond like odour. It is derived from Alpha Picoline.

Applications

- 2-Cyanopyridine finds applications in pharmaceuticals, agrochemicals & fine chemicals
- 2-Cyanopyridine is converted to Chromium and Zinc Picolinate for use in human and animal nutrition

REACH Status: Pre-registered

3-Cyanopyridine

3-Cyanopyridine is a white crystalline solid.

Applications

- 3-Cyanopyridine is used in the manufacturing of Niacinamide & Niacin (Vitamin B3)
- Other major application areas of 3-Cyanopyridine are: Pymetrisone, 2 Chloro Nicotinic Acid, and 3-Aminomethylpyridine, pharmaceuticals & agrochemicals

REACH Status: Registered as Transported Isolated Intermediate (TII)

4-Cyanopyridine

4-Cyanopyridine is a white to off-white solid at room temperature. It is derived from Gamma Picoline.

Applications

- 4-Cyanopyridine finds applications in the manufacturing of the drug INH Isoniazid and other pharmaceuticals and agrochemicals

REACH Status: Pre-registered

Piperidine

Piperidine is a colourless fuming liquid, derived by the hydrogenation of Pyridine.

Applications

- The major application of Piperidine is for the production of Dipiperidinyll Dithium Tetrasulfide, which is used as a rubber vulcanisation accelerator
- Piperidine is also used as a solvent and base in agrochemical and pharmaceutical industries for Mepiquat Chloride, Dipyrdamoil and Minidoxil

REACH Status: Pre-registered



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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 one of the global leaders in Vitamin B3, Pyridine and its eleven derivatives and Acetyls.

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