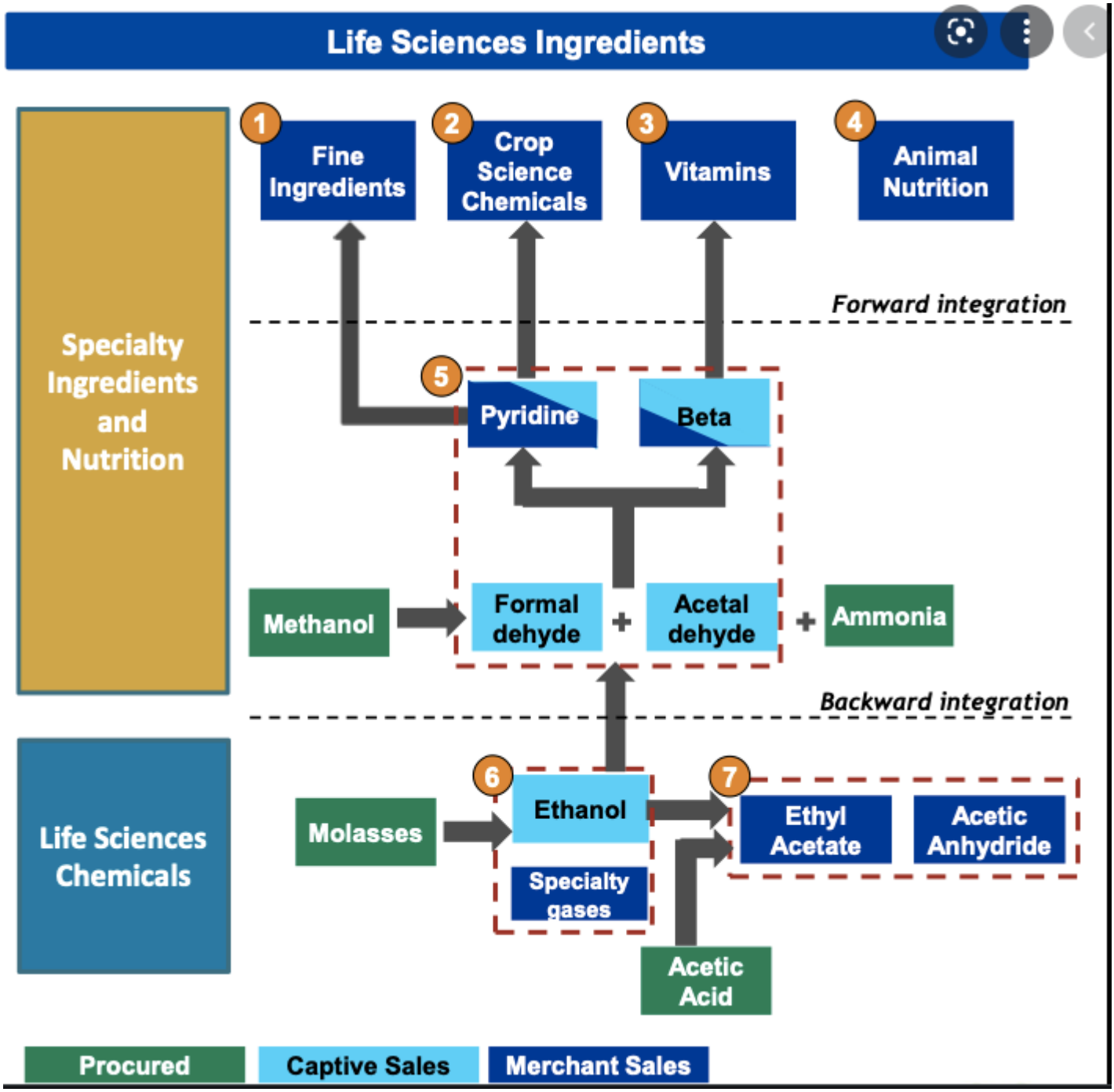
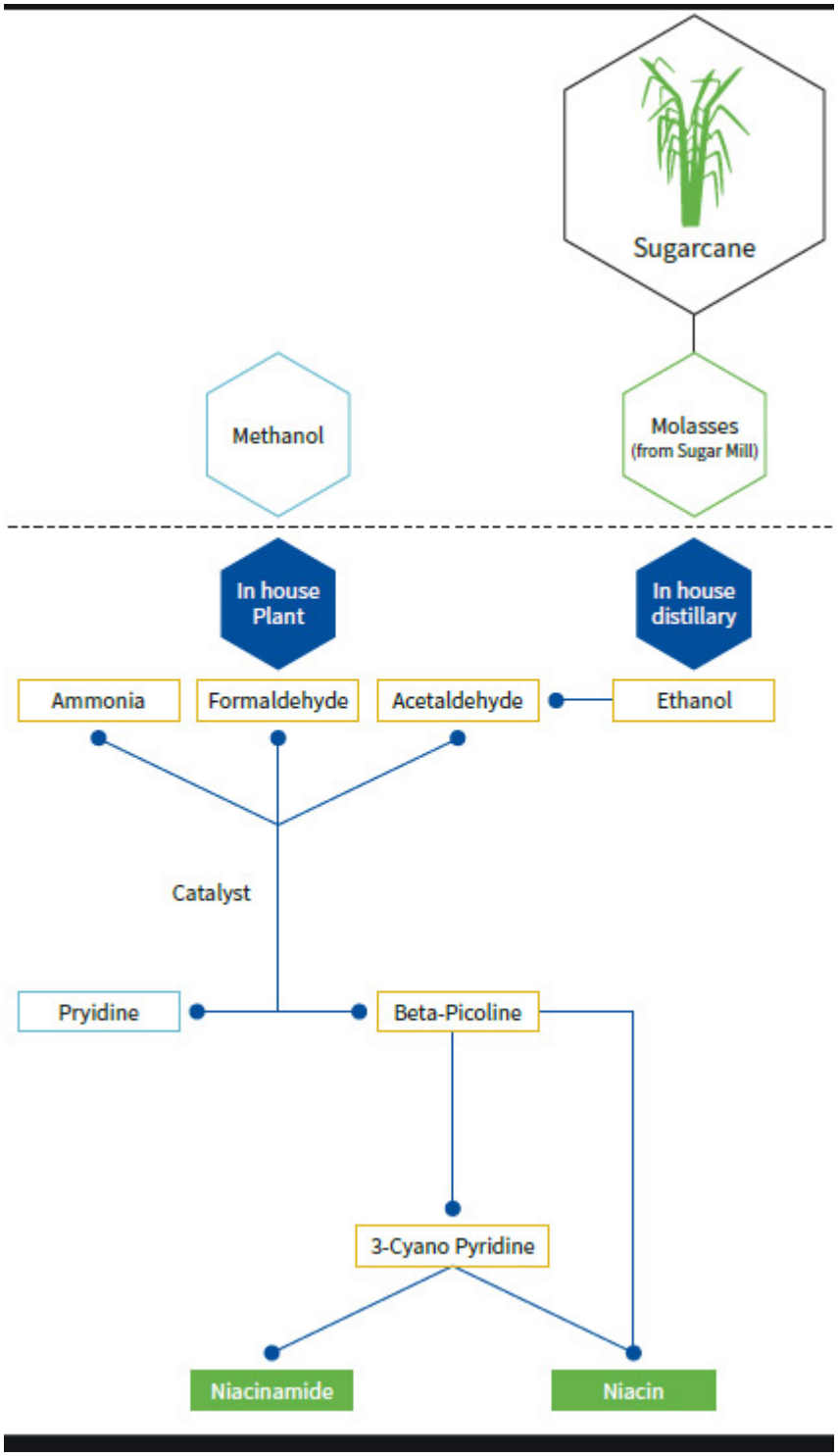
Twitter Thread by EV MISHRA

EV MISHRA
@drprashantmish6

Jubilant ingrevia - Products integration (Source Hemant Bubna)



Products integration -For Vitamin B3



Jubilant Ingrevia

1 Leading Market Positions Across Business Lines, with High Entry Barriers

	Highlights	Entry Barriers
Speciality Chemicals	▪ Portfolio of ~70 products ▪ Amongst **top 2** in Pyridine - Beta globally ▪ **#1** in 11 Pyridine Derivatives globally ▪ 'Partner of Choice' in CDMO services with a strong pipeline ▪ Catering ~420 customers globally	▪ Globally **lowest cost producer** of Pyridine – Beta & all value added products ▪ **Long approval process** of customers, takes about 3-5 years for product approvals and facility audit ▪ Demonstrated expertise in **handling multi-step chemistries** (~13 steps) upto commercial scale
Nutrition & Health Solution	▪ Portfolio of 34 products ▪ Amongst **top 2** in Vitamin B3 (Niacinamide) globally ▪ **Serving diverse customers** in Animal & Human Nutrition, Personal Care, etc ▪ **#1** in Vitamin B4 (Choline Chloride) domestic market ▪ Offer more than 18 branded solutions to farmers & channel partners ▪ Catering ~400 customers globally	▪ Complete **backward integration** to key RM i.e. Be Picoline & Differentiated **niche technology (air oxidatio** for mfg of Niacinamide – leading to lowest cost ▪ Attained **deep reach to farmer community** for Anim Nutrition & Health products ▪ **Brand Recognition –"ANICHOL"** for Vit-B4 is leadir brand & **other 18 Brands**
Life Science Chemicals	▪ Portfolio of 6 products ▪ Amongst **top 2** in Acetic Anhydride globally ▪ Leading producer of Ethyl Acetate ▪ Globally largest manufacturer of bio-based Acetaldehyde ▪ Most reliable player of Acetyl products from multi-plants at multi-locations ▪ Catering ~600 customers globally	▪ Capability of handling large "**Ketene**" volumes ▪ Strong internal systems to **manage controlled substances**

1) Markets & Markets Industry Report 2020 *2) Merchant Market: IHS Report*

Life science chemicals -Market Share

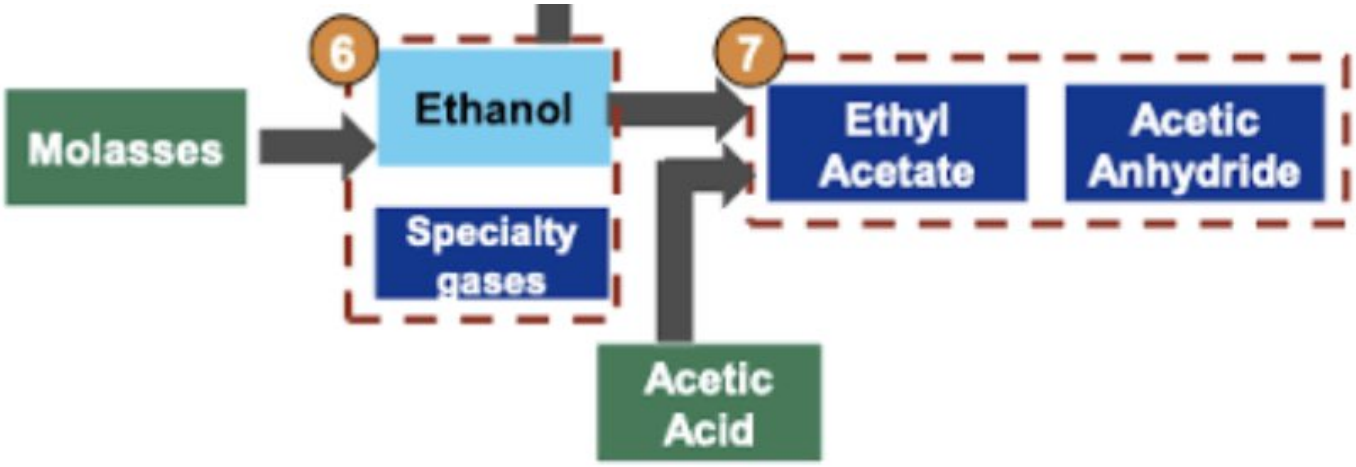
Jubilant Market Share - Select Offerings[1]

Product	Domestic Market Share	Global Market Share
Acetic Anhydride	71%	15%
Ethyl Acetate	33%	4%
Bio Acetaldehyde	35%	-
Speciality Ethanol	8%	-
Propionic Anhydride	Recent Launch	Recent Launch

Ethyl acetate-One of the key products of Jubilant's Life science business

Manufacturing from -bio-ethanol and acetic acid.

Jubilant is also the 7th largest Ethyl Acetate manufacturer in the world and has the largest market share in the domestic market.(See Below)



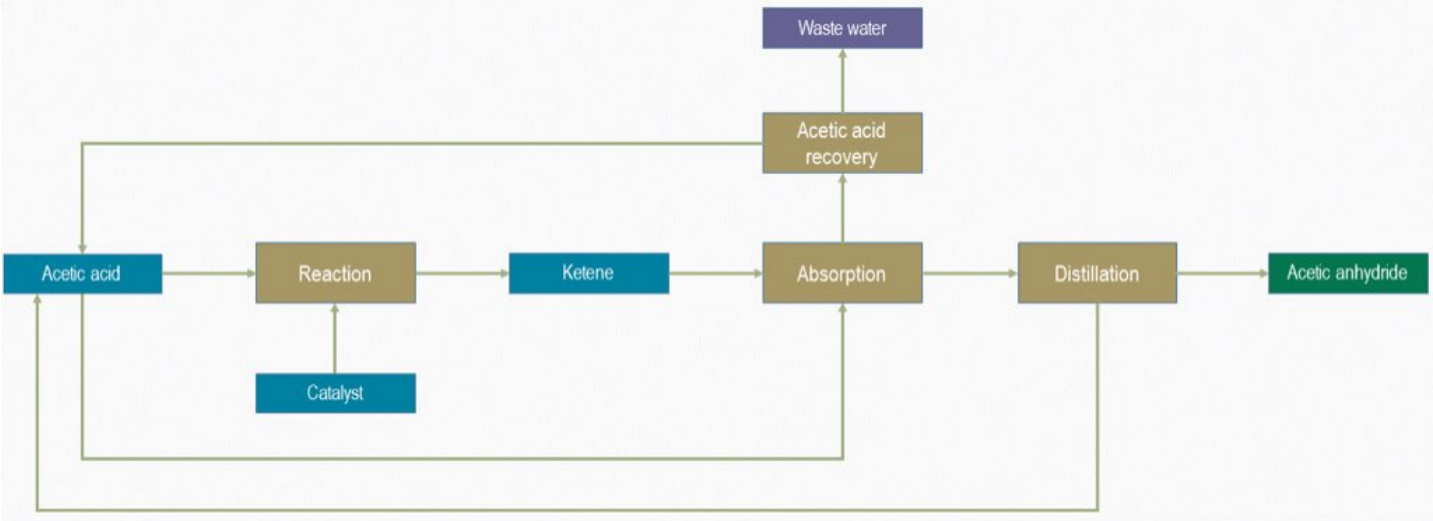
ethyl acetate produced through bio- ethanol gives a much lower carbon footprint of 2.29 (cO2 per ton of chemical) as against 5.66 (cO2 per ton of chemical) through petro route. it is an important downstream product of bio-ethanol and acetic acid.

Acetic Anhydride
acetic anhydride is made from acetic acid. Jubilant holds more than half of the domestic market share in the production of acetic anhydride. it is also the 7th largest global manufacturer of acetic anhydride and the 4th largest in terms of merchant sales globally

company has two state of the art production unit for ethanol manufacturing in Gajraula (Uttar Pradesh) and nira (maharashtra). ethanol produced is supplied to oil marketing companies for ethanol Blending Programme (eBP) in india making them the 4th largest supplier on Pan india

Monochloroacetic Acid (McAA)/ sodium Monochloro Acetate (sMcA)
Jubilant is the only integrated producer,manufacturing monochloroacetic acid/Sodium monochloro acetate by utilising acetic acid and acetic anhydride.The company is a prominent exporter of mcaa and Smca.

Manufacturing of Acetic anhydride from Acetic acid .



Acetaldehyde

Acetaldehyde market in India is anticipated to grow at CAGR of 4% owing to its extensive utilization in the production of agrochemicals, pharmaceuticals, paints and coatings industries. Acetaldehyde, also known as ethanal, is an organic compound and is used as a

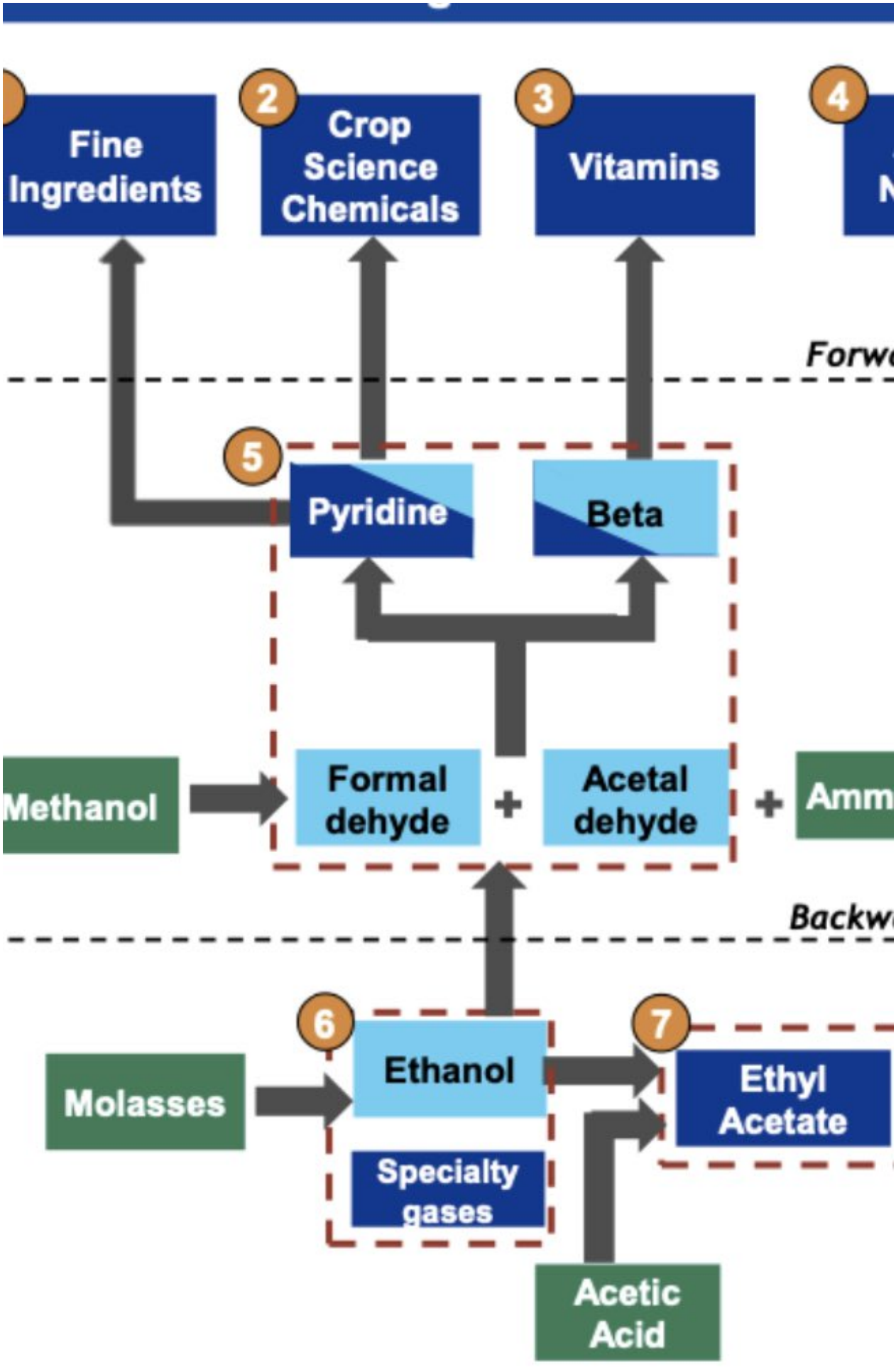
as a chemical intermediate for the manufacturing of various petrochemical products. Indian Acetaldehyde market is highly fragmented owing to the easy availability of raw material and production process, which encouraged the domestic manufacturers to enter this market.

Acetaldehyde finds its major application in the production of Pyridine & Pyridine bases, Pentaerythritol, Acetic Acid and Acetate Esters. Demand for Acetaldehyde in India is driven by the growing demand for Pyridine and Pyridine base in production of agrochemicals and

More than 50% of Pyridine produced is used in the manufacturing of pesticides and herbicides. Moreover, rising demand for Pentaerythritol in plasticizers, paints and coatings is boosting the demand for Acetaldehyde in India. Increasing construction activities coupled with rising

concern towards protection of surface coatings is likely to increase the consumption of Pentaerythritol in paints and coatings, which is further accelerating the growth of India Acetaldehyde market. Furthermore, Acetaldehyde is also used as precursor to produce other chemicals.

Again See the value chain of manufacturing of Ethanol - Acetaldehyde - pyridine - fine in gradients and crop science chemicals


Fine Ingredients
2
Crop Science Chemicals
3
Vitamins
4
Forw
5
Pyridine
Beta
Methanol
Formal dehyde
+
Acetal dehyde
+
Amm
Backw
6
Ethanol
7
Molasses
Ethyl Acetate
Specialty gases
Acetic Acid

@threader_app compile

Diketene market in india-
Until 2020, the Indian diketene market was valued at US$ 31.5 Mn, and is further expected to increase to US$ 48.4 Mn by 2030, expanding at a value CAGR of over 4%.

Pharmaceuticals & nutraceuticals is the key growth engine, likely to yield over two-fifths of the total revenue.

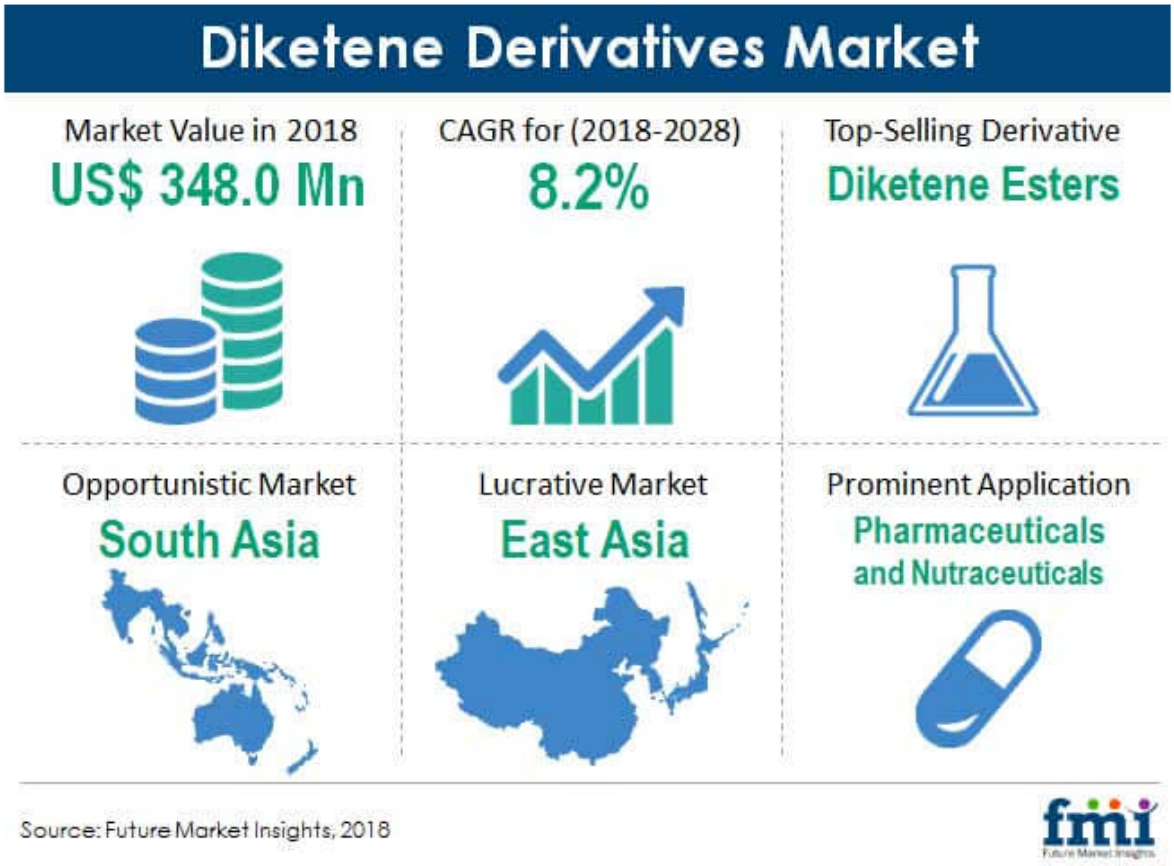
The India Brand Equity Foundation establishes that the country is the largest provider of generic drugs globally.

The Indian pharmaceutical sector generated over 50% of the global demand for various vaccines, 40% of generic demand in the U.S and a quarter of all medicines in the U.K. By 2025, the pharmaceutical industry will reach US$ 25 billion.

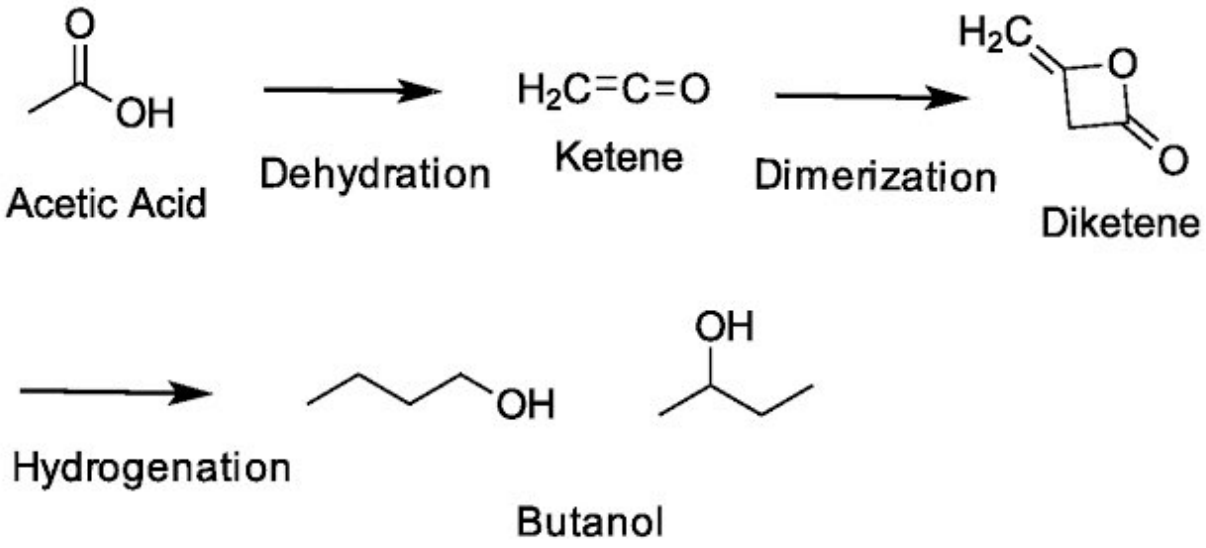
Recently, the Union Cabinet has amended existing FDI policies in the pharmaceutical segment to permit 100% investment with regard to medical devices manufacturing subject to certain conditions. pharmaceutical sector cumulatively attracted an FDI inflow worth over US$ 16 billion

between April and June 2020.
Based on these aforementioned broad trends, investments in diketene derivatives and associated products is likely to burgeon, creating massive revenue pools in the future.

Global Diketene Derivatives market



Acetic acid - ketene- Diketene- Butanol



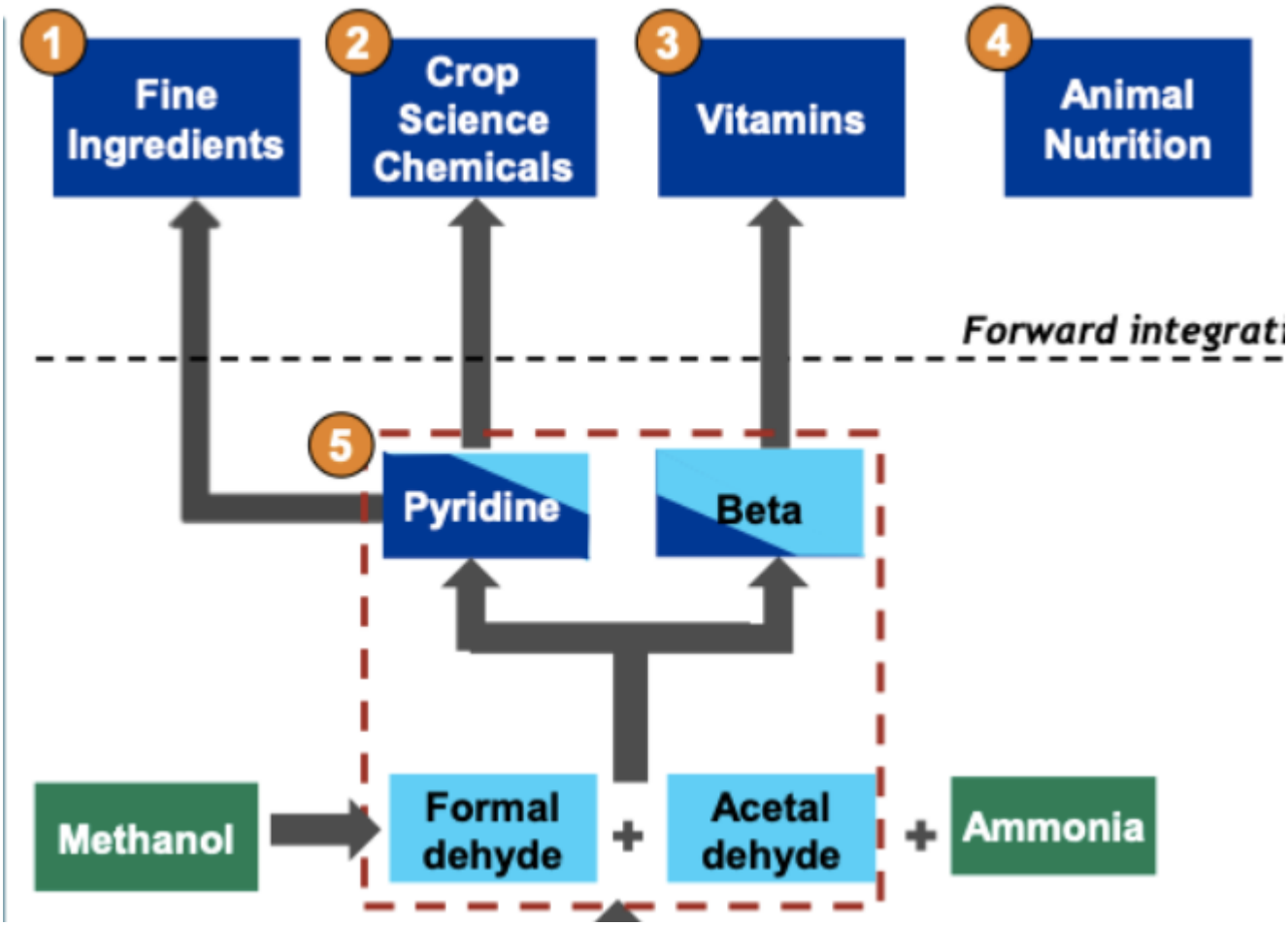
Synthesis of butanol from acetic acid via diketene.

Rice fortification will increase growth of vitamin B3 market https://t.co/4VK0tc1m6O

https://t.co/iI6oEHcXwy

Paraquat is a herbicide and it require pyridine as a raw material for manufactring and Due to Paraquat ban in Brazil and Thailand Pyridine, prices were lower in last q but Beta picoline is a co product during pyridine manufacting so because of low pyridine demand even

beta picoline production was low because of This has resulted into improvement in Beta Picoline prices.(Just for knowledge sharing)See Diagram Below



Jubilant Ingrevia AR-
CDMO-
-We currently have seven molecules in our pharma CDMO pipeline out of which four are in Phase III for anti■viral and cosmetic applications and three are in Phase II for anti■neoplastic, anti■retroviral and anti-thrombotic applications.

-Our agrochemical CDMO pipeline includes four molecules, one in Stage III for insecticides and three in Stage II for insecticide and fungicide application.

We are also planning to file DMFs for our intermediates regulated markets from our GMP facility at Bharuch

-Our Vitamin B3 is manufactured
through an eco-friendly route, starting from a renewable
source, instead of conventional fuels, thereby reducing
our carbon footprint.
-We offer Vitamin B4 (Choline Chloride) which helps maintain liver health in animals.

We hold the domestic market leadership position in Choline Chloride.
We have also diversified into herbal replacer of
Choline, Methionine, Non-antibiotic growth promoter (under brand ‘Phytoshield’) which is a plant-based natural offering for animal health

In FY 2021, our in■house RDT team developed ‘Propionic Anhydride’ in record time to capture the growing demand in Agrochemicals (mainly herbicides), Pharmaceuticals (APIs) and Dyes segments.

Our team has successfully
commissioned the global scale plant at Gajraula for
supply across India and the global market. The demand
for Propionic Anhydride is expected to grow on account
of strong growth from Agrochemical Segment (Growth in
Clethodim).

Clethodim- is a post-emergence herbicide used to control annual and perennial grasses in a wide variety of broad leaf crops including soybeans, cotton, flax, peanuts, sunflowers, sugarbeets, potatoes, alfalfa and most vegetables (In FY 20 UPL also started its production)

Jubilant ingrevia -Acetaldehyde is used to manufacture Pentaerythitol and read about Market of Pentaerythrutol - Growth, Trends and Forecast (2020-2025) https://t.co/ofTMWM7ARk

Jubilant ingrevia - 50 plants in 5 sites (Total Plant Area almost 1000 Acres)



Jubilant ingrevia- solar power plant for captive use https://t.co/NniH39uk8C

Jubilant Ingrevia - expansion plan

Overall Expansion Plan: Jubilant Ingrevia

JVL: Jubilant Ingrevia Limited

Plan to double the Revenue by FY'26 from the base of FY'21. Key Projects starting during next 3 years (Quarter in which production is starting)

FY'22

- **Diketene investment (Phase 1)**– Moving up the value chain of Ketene, Growing demand & Exit of the old leading producer **(Q4 FY'22)**

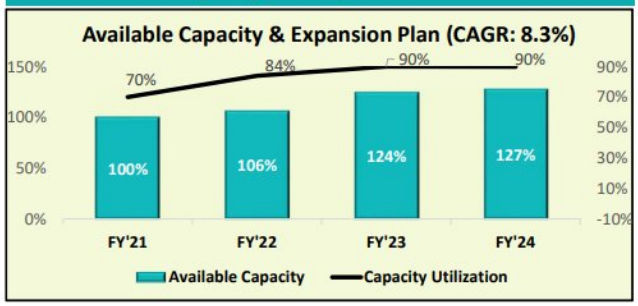
FY'23

- **CDMO (GMP) Multipurpose plant**– For Pharma intermediates **(Q1 FY'23)**
- **CDMO (Non-GMP)** Two Multipurpose plant for Pharma & Agro intermediates **(Q1 FY'23)**
- **MPP Agro Active plant** – Moving up the value chain of Crop Protection actives & Growing customer demand **(Q4 FY'23)**
- **Acetic Anhydride capacity expansion** – Growing demand & Geographic expansion **(Q4 FY'23)**
- **Food Grade Acetic Acid**– Green Acetic Acid for food applications **(Q1 FY'23)**
- **Nutrition Premix plant Expansion** – Moving up the value chain from Ingredients to Premixes **(Q2 FY'23)**
- **Pharma Grade Vitamin B3 (USFDA, EU CEP)** – For niche application in Pharmaceuticals **(Q3 FY'23)**

FY'24

- **Niacinamide capacity expansion** – Geographic Expansion and Moving forward for value added end uses 13,000 TPA to 16,000 TPA **(Q1 FY'24)**
- **Diketene investment (Phase 2)**– Moving up the value chain of Ketene, Growing demand & Exit of the old leading producer **(Q4 FY'24)**

Capacity Build Up for Growth



FY'21 Capacity Utilisation: 70%

Capacity growth in FY'22 over FY'21:
Debottlenecking: 1%
New Capacity addition: 5%

Expected Utilisation FY'22 Capacity: 84%

Capacity growth in FY'23 over FY'21:
Debottlenecking: 8%
New Capacity addition: 16%

Expected Utilisation FY'23 capacity: 90%

Capacity growth in FY'24 over FY'21:
Debottlenecking: 8%
New Capacity addition: 19%

Expected Utilisation FY'24 Capacity: 90%

10

Debt Status

Debt Profile – As on 30th September, 2021

Particulars[1]	31-Mar-21	30-Jun-21	30-Sep-21
Long Term Borrowings	548	227	218
Short Term Borrowings	-	230	45
Total Gross Debt	**548**	**457**	**263**
Cash & Equivalent	117	70	70
Total Net Debt	**431**	**386**	**193**
QoQ change		**-10%**	**-50%**

Jubilant ingrevia in Antimicrobial segment- CPC - natural Bacticidal and fungicidal with anti viral efficacy .-key word here is natural

JUBILANT INGREVIA

Introducing

A Range of Anti-Microbials for Higher Efficacy





Jubiquat CPC™ - *Cetyl Pyridinium Chloride*

A Naturally Derived Safe & Eco-Friendly Bactericidal and Fungicidal QUAT With Potential Virucidal Efficacy Against Respiratory Viruses Including ***SARS–COV–2/COVID–19.**

*Recent Lab Studies by Leading FMCG Companies Show Mouthwash with CPC Neutralizes 99.9% Covid-19 Virus.

All Oral Care Applications / Surface/Laundry Cleaner / Hair Spray / Body Wash / Antibacterial Bar/Liquid Soap

Personal Care Applications

- **Jubithione ZPT-50** - ZPTO based Anti-dandruff formulation
- **Jubithione ZPZ** - Next gen, eco-friendly & highly efficacious anti-dandruff composition.
- **Jubiquat CLC** - Advance, efficacious and eco-friendly composition for clear anti-dandruff formulations.
- **Jubiquat CPL** - Complete Oral care solution with anti-bacterial and tooth whitening advantage.

Industrial Applications

- **Jubithione ZPT 40** - Dry Film & in-can preservative
- **Jubithione CuPT** - Marine anti-fouling coatings
- **Jubithione NaPT** - Water soluble anti-fungal composition for metal working fluids.
- **Jubithione ZPB and NPB** - Next generation dry film & in-can preservatives.

Jubilant Anti-Microbials - Jubilant, a global leader in Pyridine and its derivatives, now enters Antimicrobial range of products using Pyridine as the key starting material with complete backward integration, Quality control, ISO certified manufacturing plants and technical strength. Jubilant Life sciences is a trusted partner of choice, servicing globally renowned customers across personal care, paints & coatings market.

Visit us at **www.jubilantingrevia.com** or e-mail at **ingrevia.support@jubl.com**

Responsible Care®