

Jubilant is a significant player in the global markets for nutritional products. The Company manufactures a wide range of ingredients and formulations which find application in diverse industries across pharmaceutical, food, animal feed and personal care.

The Company enjoys a strong position of trust and reliability with its customers across the globe on account of its quality of products and services. Our manufacturing facilities

for nutritional products are FAMI-QS quality compliant, certified by international regulatory authorities and our products conform to major international pharmacopoeias.

## 1. Nutritional Ingredients:

### a) NIACIN & NIACINAMIDE:

**Market Leadership**—Jubilant is currently ranked amongst the top three manufacturers of Niacin & Niacinamide (Vitamin B3) worldwide and is the leading manufacturer of Niacinamide with complete backward integration to the basic feed-stock. Jubilant has expanded its Nutrition business further with 10,000 TPA capacities for 3-Cyano Pyridine and Niacinamide at SEZ Bharuch, Gujarat. With the commissioning of the new facility, Jubilant will become the second largest manufacturer of Niacinamide at full capacity utilization. Jubilant delivers unmatched advantages of consistent quality & availability for Niacin & Niacinamide, leveraging its global scale of Pyridine manufacturing operations.

Niacin and Niacinamide products conform to -

- The latest versions of all major pharmacopoeias i.e. USP, BP, JP, CP, EP and FCC
- All major regulations for applications into Animal Feed, Human Food and Pharmaceuticals

**Accreditations**—The manufacturing facilities are certified for Kosher, Halal, FAMI-QS and cGMP regulations.

**Care for Environment**—Our Niacinamide is produced using an innovative and efficient synthetic chemical process which leaves minimal Carbon Footprint on our environment.

### PRODUCT VARIANTS:

Jubilant offers multiple variants of Niacin & Niacinamide to cater to its customers. The product variants offered include:-

- Niacin USP
- Niacin 95%
- Niacin free flow
- Niacin feed grade
- Niacin direct compressible
- Niacinamide USP
- Niacinamide free flow

- Niacinamide feed grade
- Niacinamide direct compressible
- Custom offering of different particle sizes ranging from fine powder to coarse granular

### APPLICATION AREAS:

**Animal Nutrition**—The major application of Niacin and Niacinamide is in the field of Animal Nutrition. Niacin and Niacinamide are essential for good health and optimum productive performance of all animals. Numerous experiments have shown that although feedstuffs contain Niacin, much of the ingested Niacin is in a form unavailable to the animal, being bound in a polysaccharide complex. Niacin deficiency reduces the activity of the coenzymes NAD and NADP, affecting numerous metabolic processes and in turn causes other secondary metabolic disorders which further leads to commercial problems of Reduced Weight and growth of animals. The Animal Feed and Nutrition industry typically supplements diets with Niacin to ensure that the daily requirement of the vitamin is met.

**Human Nutrition**—Niacin and Niacinamide are used as food supplements to ensure replenishment of nutrients otherwise inadequately available in our diet. The Recommended Dietary Allowance (RDA) is 20mg/day.

**Pharmaceuticals**—Niacin and Niacinamide find use in pharmaceutical industry in the production of various vitamins and their effect can be seen in treatment of Diabetes and high Cholesterol level.

**Cosmeceuticals**—Niacinamide has shown encouraging results when formulated into skin cream, hair lotions and other personal care products in the new class of products in the health and beauty aid category termed Nutraceuticals. These Nutraceutical ingredients when incorporated in the topical delivery system enhance elegance, skin feel and texture upon application.

### Technical Applications:

1. The manufacturers of Zinc and Cadmium brighteners use Niacin in the preparation of metal surfaces.

- The addition of Niacin in quarterized form (obtained by the reaction of Niacin with benzylchloride) to metal plating baths leads to uniform and brilliant surfaces. Use of Niacin may also improve the electro-deposition of plating metals.
- Niacin is also used as a brightener additive in Cyanide-free metals baths for galvanic zinc, cadmium, tin, chromium, copper and nickel.
- Niacin and Niacinamide are also used as a starting raw material in the production of advance stage intermediates which further go into the production of patented agrochemical molecules.

**Packaging**—Our customized packaging ranges from packs of Cartons to Laminated bags to Jumbo bags.

#### b) Choline Chloride

Jubilant Life Sciences Limited is India's largest manufacturer of Synthetic Choline Chloride. Choline Chloride is manufactured at the **ISO 9001:2008** and **FAMI-Qs** compliant manufacturing facility of Jubilant. It meets international quality standards and is offered in different forms for animal feed applications. To have complete control over quality aspects, the manufacturing plant also has a backwardly integrated corn cob manufacturing facility which is unique to the company. The highly sophisticated in-site quality control laboratory and elaborate QC and QA protocols ensure that Jubilant stands up to its most precious value of consistent delivery of quality.

Choline Chloride is used in poultry, dairy, and pet food as well in pharmaceutical companies for making Choline enriched products. Choline is also known as Vitamin B4 and is an essential nutrient that is widely distributed in foods, principally in the form of phosphatidylcholine but also as free choline and is necessary for the structure and function of all cells and is crucial for sustaining life.

The role of Choline is to form cell membrane structure and prevention of fat deposition in liver-cells. It is a precursor of Acetylcholine synthesis which is important for neurotransmission.

#### Product Variants:

- Anichol 60 – Choline Chloride 60% Dry Vegetable carrier based
- Anichol 75 – Choline Chloride 75% Aqueous
- Choline Chloride Crystals – Choline Chloride crystals 99% dry
- RPC – Rumen Protected Choline

## 2. Specialty Products

Jubilant offers Specialty feed supplements to the farmers to increase their return on investments, which are mainly Chromium Tripicolinate premix,

Feed acidifiers, Potent Mycotoxin Binders and Liver treatment products. Additionally Jubilant has successfully utilized its expertise and strengths in vitamins market and developed alliances with global manufacturers of bulk feed additives like amino acids which gives us an opportunity to serve customers with a wider gamut of products.

#### Product Variants:

- Brolay Protect Plus—Broad spectrum Mould & Mycotoxin binder
- EnCroMix—Organic Tri-Chromium preparation for energy utilization
- Sal RIP, Mould RIP, Clostro RIP—Feed & Gut Acidifiers
- WinTox-Liquid formulation for nourishment, detoxification & rejuvenation of vital organs
- Anichol L—Liquid Choline Formulation for treatment of fatty liver condition
- OsmoBetaine—Betaine for osmoregulation in livestock
- Hi-Pro-Min—Organic Mineral premix for poultry

## 3. Premixes

Jubilant is amongst the leading companies in India providing Trace-Minerals and Vitamin Premixes with proper sourcing of raw materials from approved suppliers. These products are produced in a FAMI-QS and ISO quality compliant facility ensuring high quality premixes of vitamins, trace-minerals and functional feed additives for poultry, dairy, swine and aqua. The premix industry is charged with the responsibility of manufacturing a high quality premix consistently, efficiently and economically with its main objective is to deliver the micro ingredients in a manner desired by the consumer.

#### Product Variants:

- Trace Mineral Premixes
- Vitamin Premixes
- Combination Premixes
- Customized Premixes

## 4. Enzymes

Jubilant leverages its international presence to establish a robust Supply Chain backed by a strong Quality Control and Research & Development capabilities to provide high quality Phytase & NSP enzymes to the Indian livestock industry.

#### Product Variants:

- HiFeed BGX- NSP Enzyme
- HiFeed Phytase- Thermo-tolerant potent Phytase Enzyme



**Jubilant Life Sciences Limited** is an integrated Pharma and Life Sciences Company. It is the largest Custom Research and Manufacturing Services (CRAMS) player and a leading Drug Discovery and Development Solution (DDDS) provider out of India. The Company is ranked at No. 6 among the global contract manufacturing & services companies in the pharmaceutical sector by United Nations Conference on Trade and Development's (UNCTAD) World Investment Report 2011. The Company provides Life Sciences products and services across the value chain, serving its customers globally. With 10 world-class manufacturing facilities and a team of ~ 5800 multi cultural people across the globe, the Company is committed to deliver value to its customers spread across 75 countries. The Company is well recognized as a 'Partner of Choice' by leading life sciences companies worldwide.

**Corporate Office** : 1A, Sector 16A, Noida-201301, U.P., India, Tel: +91 120 4361000 Fax: +91 120 4234881/84/85/87/95/96, email: support@jubl.com