ANTIMICROBIAL FOR INDUSTRIAL APPLICATIONS
**Antimicrobial For Industrial Applications**

The Antimicrobial Business of Jubilant Life Sciences offers safer and efficacious solutions for Paints & Coating, Lubricants and other Industrial Applications. Our antimicrobial product range is completely backward integrated through its greener pyridine chemistry & Life science chemicals. With complete quality control, ISO certified plants, backward integration with internationally acceptable standards and technical services, we are a trusted ‘Partner of Choice’ for our globally renowned customers in the Paints & Coating and other allied industries like Textile & Polymer, Gypsum Board etc.

**BUSINESS OVERVIEW**

**PRODUCTS**

Our range of antimicrobial under the brand name Jubithione® includes:

- Jubithione® ZPTO (Powder)
- Jubithione® ZPT Fine Particle Suspension
- Jubithione® CuPT (Copper Pyrithione Powder)
- Jubithione® NaPT Sodium Pyrithione (Sodium Pyrithione Solution)
- Jubicide PAA (Per Acetic Acid 15%)
- Jubithione® ZPZ Fine Particle Suspension
- Jubithione® ZPB Fine Particle Suspension
- Jubithione® NPB

**SERVICES**

We offer research, development, antimicrobial analyses and contract manufacturing services for customized antimicrobial formulation for various industrial applications.

**PRODUCT PORTFOLIO**

**Jubithione® ZPTO (Zinc Pyrithione Powder)**

Zinc Pyrithione (ZPTO) is a well-known, highly active, broad spectrum antimicrobial agents used industrial product applications. ZPTO is approved US-EPA for Industrial applications including Paints & Coatings.

**Advantages:**

- Broad range of activity against bacteria, fungi and mould
- Excellent compatibility with surfactants and alkaline formulations.
- High photo- and thermal stability
- Low water solubility providing low leaching and hence prolonged efficacy and Long-lasting protection

**End Applications:**

- In-can preservative for Industrial products
- Dry-film preservative for Paint & Coatings
- Antifungal/Anti-algal agent in Soft-Fouling Marine Paints
- Antifungal/Anti-algal agent in cutting oils and coolants, in insulation materials, caulks, sealants, grouts, polyurethane flooring & coatings
- Preservative in adhesives, fabric care and plastic products

**Recommended Use Levels (As active % w/w):**

- In–Can Preservative: 0.1-0.25%
- Dry-film Preservative: 0.2-3%
- Marine Soft anti-fouling: 2-4%

**Jubithione® ZPT 40 (Zinc Pyrithione 40% FPS)**

An Effective Solution For Interior & Exterior Paints

ZPT 40 (Zinc Pyrithione 40% FPS), is a ready-to-use, white to off-white coloured fine particle aqueous suspension for effective In-can preservation, Dry film preservation due to potent antimicrobial activity against fungi, bacteria, moulds, yeasts and to some extent against algae.

**End Applications**

- Paints & Coating as:  
  - Dry Film preservative
  - In-can preservative

**Dosage Levels**

- Indoor Paints: 0.5-1.0%
- Outdoor Paints: 1.0-2.0%

**Jubithione™ CuPT (Copper Pyrithione Powder)**

A Trusted Solution For Marine Antifouling Products

Ships, fishnets & other underwater equipment are prone to attacks by barnacles, mussels and algae etc The growth of marine organisms on the hull can increase frictional resistance thus increasing fuel consumption by 80% and reducing the speed of the ship. Jubithione CuPT is the most preferred solution for such problems.

**Advantages**

- Solid olive green powder ready for direct incorporation in customer’s formulations
- Broad spectrum antimicrobial with excellent anti-algal efficacy
- Non VOCs and excellent heat and pH stability
- Low water solubility & low leach rate providing long term protection

**End Applications**

- Marine and Yacht Antifouling Paint
- Algal Protections on fish Fishnet Coatings

**Dosage Levels**

- Powder as active: 2-4 % w/w

**Jubithione® NaPT (Sodium Pyrithione 40% Solution)**

Jubilant’s Jubithione® NaPT is amber color, clear, 40% aqueous solution of Sodium Pyrithione

Metalworking fluids are breeding grounds for microorganisms, particularly bacteria and fungi. It degrades fluid performance and damages all associated work pieces, tool etc, while can also cause allergies and skin problems in workers. Jubithione NaPT is an effective anti-microbial solution to these problems.
Jubithione® ZPB

Synergistic Anti-Microbial & Preservation System for Paint & Hygienic Coating Applications

An aqueous, ready to use, broad spectrum, cost effective synergistic bactericide-fungicide developed in-house for paints & coatings and preservation applications. It is a synergistic composition of 1,2-Benzisothiazolin-3-one (BIT) and Zinc Pyrithione (ZPTO) which increases bio-availability of active ingredients, showing high biocidal efficacy at very low concentration.

- Combination of two highly effective active ingredients (ZPTO & BIT) with different modes of action which provides “Complimentary Dual Antimicrobial Action”.
- Excellent anti-microbial activity against bacteria, yeast, fungi and mold.
- Significantly reduced environmental toxicity due to reduction in total anti-microbial active requirement.
- No Labelling requirements as per EUH 208.
- Zero VOC & CMIT, MIT and formaldehyde free formulation.

End Applications:
- In-can and Interior Dry film preservative
- Hygienic coatings
- Synthetic Polymer Emulsions
- Emulsion Paints
- Water based Adhesives
- Aqueous Pigment slurries/dispersions
- Printing inks
- Textile-Auxiliary substances.

Dose Levels:
- Can be proposed based on anti-microbial efficacy studies and compatibility & stability trials of the compositions.
WHY JUBILANT?

Backward Integration to the Basic Feedstock
The complete backward integration, (Molasses-Alcohol - Acetaldehyde Pyridine -2-CP ZPTO/CPC) up to the basic feedstock, is one of the major advantages that company has over the other manufacturers of Zinc Pyrithione and CPC. The molasses obtained from sugarcane enables Jubilant to use bio-ethanol as the primary feedstock for the manufacturing of Zinc Pyrithione and CPC.

Research Capabilities
Jubilant offers customized antimicrobial formulations for various applications. Our state-of-the-art infrastructure and well designed laboratory is capable of performing all sorts of microbiological tests (like, Zone of Inhibition test, Time Kill Test, MIC Studies etc.) and evaluation studies related to biocides, preservatives and product prototypes as per AOAC, ASTM, EN and Bis standards.

R&D facilities are located at Gajraula (UP) and Noida (NCR) with advance equipments for R&D trials and scale-up studies including modern analytical equipments like Malvern Particle size analyzer, ICP OES, Viscometer, UV Spectrophotometer etc.

Care For Environment
Jubilant saves a considerable amount of Green House Gas emissions by using bio-ethanol as its primary feedstock unlike other manufacturers using petro based feedstock (Naphtha). Jubilant saves an estimated 10-30% of CO2 Emission as compared to its competitors.

Global Reach
Jubilant has wholly owned subsidiaries with offices in US, Europe and China. Outside India, the company holds warehouses in Belgium, USA and China. Additionally, Jubilant has global sales and distribution networks worldwide.

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.

Information provided in this Data Sheet is only for general reference. No claims are made in this Data Sheet. The information we provide is not intended as a substitute for testing. Product is strictly for user’s evaluation purpose only. Users are requested to conduct their own test to determine the suitability and efficacy of product in their applications and conditions of uses.

*It is the responsibility of the finished goods manufacturer to ensure their product is compliant with the applicable regulations. Recommended product’s use levels may vary depending on country. For any additional information or clarification, please contact Jubilant Life Sciences Ltd.

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