

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

Advantages

- High efficacy and growth inhibiting activity against bacteria, fungi, yeast & molds
- Ready for direct incorporation in customers formulations
- Water soluble
- Used as a wet-state preservative
- Possesses non-irritating and non-sensitizing properties

End Applications

- As preservative for Lubricating Fluids
- Anti-fungal agent in Metalworking fluids, leather application, sealants, urethane foams, patching compounds

Dosage Levels

- Dry film preservation: 0.5 - 1.25 % w/w

Jubicide PAA (15% Peracetic Acid)

An Effective Sanitizer, Dis-infectant, Sterilant and Bleaching agent for a number of Industries

Advantages

- Broad spectrum antimicrobial (effective bactericide, fungicide & sporicide)
- Powerful oxidant; with potential that outranges chlorine and chlorine dioxide
- Environmental friendly as no toxic or mutagenic residuals and/or harmful decomposition by-products (DBP's)
- Bright, colourless liquid with a characteristic pungent odor and a low pH value
- No quenching/neutralization required as in case of any other chlorinated sanitizer.
- Low freezing point – stable at very low temperature.

End Applications

- Cleaner/Disinfectant/Sanitizer for Home care, Food processing, Frozen Foods, Beverages & Dairy, Agriculture & Animal Health Care, Shrimp Farming, Cooling towers & Waste Water treatment, Medical, Pharmaceutical & Hospitals Textile and Pulp & Paper industry.
- Pesticide Bleaching agent in Textile and Pulp & Paper industry

Jubithione® ZPZ

An Advanced, Highly Effective, Low Leaching and Eco-Friendly Antimicrobial Composition For Paints & Coating Applications

An aqueous, ready-to-use, synergistic biocidal composition and preservation system. Excellent anti-microbial activity against fungi, bacteria and algae with significant reduction in total anti-microbial active requirement. High and prolonged efficacy due to very low leaching rate. Eco-friendly and Preservative free. Helps in prevention of in-can discoloration.

End Applications

- Decorative and Marine (anti-fouling) paints
- Coatings & adhesives
- In-can preservative

Dosage Levels (Active Basis)

- Indoor Paints (as active): 0.1% - 0.25%
- Exterior Paints (as active): 0.25% - 0.5%
- In-can Preservative: 0.1% - 0.25%

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:

- Synthetic Polymer emulsion: 0.08% - 0.35%
- Emulsion Paints: 0.08% - 0.35%
- Water based Adhesives: 0.08% - 0.35%
- Aqueous Pigment slurries/dispersions: 0.08% - 0.3%
- Textile Auxiliary substances: 0.1% - 0.3%

Jubithione® NPB

Synergistic, Eco-friendly anti-microbial System for In-Can Preservation

- Combination of two highly effective active ingredients (NaPTO & BIT) with different modes of action gives a broad spectrum of activity.
- Significantly reduced environmental toxicity due to reduction in total anti-microbial active requirement.
- No Labelling requirements as per EUH 208.
- Low viscous liquid for easy handling.
- Zero VOC & CMIT, MIT and formaldehyde free formulation.

End Applications:

- Acrylic Polymer emulsion.
- Water based adhesives.
- Metal-working fluids
- Urethane emulsion.
- Neutral pH or acidic polymer emulsion.
- Rubber & Paint industry

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 feed stock (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.



OFFICE LOCATIONS

India

Maharashtra Jubilant Life Sciences Limited

Transocean House, 1st Floor,
Lake Boulevard, Hiranandani Business Park,
Powai, Mumbai - 400 076
Maharashtra, India
Tel : +91 22 40316900

Telangana

Jubilant Life Sciences Limited

304-305, Doshi Chambers,
Opp. United Insurance Bldg.
Bashir Bagh, Hyderabad - 500 029
Telangana, India
Tel : +91 40 2322 7019

China

Jubilant Life Sciences (Shanghai) Limited

Room 602-603,
Shanghai Longemont Summit Center
1088, Yan'an West Road, Shanghai – 200052, China
Phone :+86 21 63907388

Belgium

Jubilant Life Sciences NV

Axxes Business Park, Guldensporenpark 22,
Block C, Merelbeke – 9820, Belgium
Tel : +32 9 233 1404

USA

Jubilant Life Sciences USA Inc.

790 Township Line Road Suite 175 Yardley,
Pennsylvania 19067, USA
Tel : +1 908 658 9988

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*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.

Corporate Office:

Jubilant Life Sciences Limited

1A, Sector 16A, Noida - 201301, U.P., INDIA

Tel: +91 120 4361000

For business specific inquiries: SILSC@jubl.com

To know more log on to: www.jubl.com/lsci

