

ANTIMICROBIAL FOR  
PERSONAL CARE





## Antimicrobial For Personal Care

The Antimicrobial Business of Jubilant Life Sciences **offers safer and efficacious solutions for Cosmetics and Personal Care Industry.**

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 commercial range of antimicrobials includes

- Jubiquat™ - CPC (Cetyl Pyridinium Chloride)
- Jubithione® ZPT 50 (Zinc Pyrithione 50% FPS)
- Jubiguard PEHG
- Jubiguard PCG

Our innovative antimicrobial formulation for Antidandruff Applications

- Jubithione® ZPC
- Jubiquat™ CLC

### SERVICES

We offer research, development, antimicrobial efficacy studies and contract manufacturing services for customized antimicrobial formulations for various personal care applications.

## PRODUCT PORTFOLIO

### Jubiquat™ CPC

#### Cetyl Pyridinium Chloride

A Safe, Effective & Eco-friendly Alternate To Conventional Antimicrobials/Preservatives

- A cationic quaternary pyridinium compound used as antimicrobial and cationic surfactant in various oral care, cosmetics & toiletries, pharmaceutical and home care products
- With broad spectrum antimicrobial efficacy imparting high bio-availability
- A Non-corrosive, Non-VOC and Non-oxidizing compound with neutral pH
- Most preferred anti-microbial systems considered as safe and efficacious by US FDA for use in oral care (OTC mouth rinses, toothpaste etc.) to treat plaque induced gingivitis
- Recommended Safe and Efficacious alternative by Scientific Committee on Consumer Safety (SCCS) for various in-market preservatives like Triclosan, Triclocarban, Benzethonium chloride, Parabens and Formaldehyde-donors, which are considered toxic and/or carcinogenic.

## Jubithione® ZPT 50

### End Applications

As Antimicrobial for

- Oral Care/Mouthwash
- Skin Creams & Lotions
- Deodorants & Anti-perspirants
- Transparent Body Wash & Soaps
- Wet Wipes
- Surgical Gloves

As Preservative for

- Oral Hygiene Products
- Liquid Soap & Hand-wash
- Deodorants & Anti-perspirants
- Skin Lotions, Creams & Sanitizers

### General Information

- Chemical Name: 1-Hexadecyl- pyridinium Chloride
- CAS # 6004-24-6
- EC No: 204-593-9
- Registration Status under REACH Regulation: 05-2114625352-57-0000
- Made in India under cGMP, Kosher, and Halal conditions

### Specifications

- Appearance: White Powder
- Moisture Content (% w/w, by KF):4.5% - 5.5%
- Melting Range: 80 - 840 C
- Assay, % w/w (By chemical method): 99-102%

### Dosage Levels

As Preservative

- In Mouthwashes: Upto 0.1 %.
- In all other oral hygiene cosmetic products: Upto 0.5%
- In Anti-perspirants & Deodorants: Upto 2.0%
- In Skin lotions & Creams: Upto 0.2%

### As Antimicrobial

- In Mouthwashes: 0.045% to 0.1%
- In Surgical Gloves: 0.1% to 2%

### Zinc Pyrithione 50% FPS

#### An Effective Solution To Your Dandruff Problems

- An effective, broad-spectrum anti-dandruff compound
- Also effective against odour causing bacteria on the skin
- Used in various rinse-off and leave-on hair & skin care products
- Provides dandruff relief and improved scalp health
- An aqueous suspension of very fine ZPTO particles yields a stable homogenous dispersion and enhances formulation feasibility & stability
- Excellent compatibility with surfactants and alkaline cosmetic formulations

#### Product Variants

- With Common Preservative
- With Eco Friendly Preservatives
- Preservative Free

#### End Applications

- Anti-dandruff agent
  - Hair care rinse-off & leave-on products (shampoos, conditioners, gels, creams, etc.)
- Anti-fungal/anti-microbial & anti-inflammatory
  - Skin care (creams & lotions), Foot creams and Tales
- Rinse-off body wash products
  - Bar & Deodrant Soaps, Body wash, Bubble bath

#### General Information

- Chemical Name: Bis-(2-pyridyl- thio)- zinc 1,1'-dioxide
- CAS # 13463-41-7
- EC# 236-671-3
- Registration Status under REACH Regulation: 17-2119913225-47-0000

#### Specification

- Appearance: White to off-white aqueous suspension
- Zinc Pyrithione (% w/w): 48 -50



- Provides additional sensorial benefits (conditioning, ease of combing, suppleness etc.) and relief from dandruff symptoms (irritation, itching & flaking)

#### End Applications

Anti-dandruff agent

- Hair care rinse-off & leave-on products (shampoos, conditioners, gels, creams, etc.)
- Anti-fungal/anti-microbial & anti-inflammatory
- Skin care (creams & lotions), Foot creams and Talcs
- Rinse-off body wash products
- Liquid & Bar Soaps, Opaque Body wash (bubble bath, shower gels etc.)

#### Dosage Levels

- Rinse-off products : 0.25% - 1.0%
- Leave-on products: 0.1 % - 0.25%

#### Jubiquat™ CLC

**A novel, synergistic & transparent antimicrobial composition developed for your Dandruff & other Dermal Infection.**

- Broad range of activity against gram(+) and gram(-) bacteria, viruses fungi and yeast.
- Excellent anti-dandruff activity at low concentration of actives.
- Very effective in treating bacterial & fungal dermal infections like psoriasis, eczema, ringworm, athletes foot, dry skin, dermatitis, tinea and vitiligo.
- Ability to inhibit bio-film growth.
- Significant reduction in total anti-microbial active requirement and thus substantial reduction in environmental toxicity impact.
- Provides additional aesthetic benefits like conditioning, ease of combing, gloss etc.
- Can be used to develop transparent formulations.

#### End Applications:

- Anti-dandruff hair-care Rinse-off & Leave-on products (shampoo, serums and conditioners).
- Anti-fungal/anti-bacterial Creams & Lotions.
- Non-irritating opaque bubble bath, shower gels, liquid soaps & gel bars.

- pH (5% active ingredient in pH7 water): 6.5 - 9.0
- Particle Size (Malvern 2000): 2 microns or less (%) > 90

#### Dose Levels (Based on active)

- Hair-Care
  - Rinse-off Applications: 0.50% - 2.0%
- Leave-on Applications: 0.50% - 2.0%
  - Rinse-off body wash products: 0.25% - 0.50%

#### Jubithione® ZPC

**An Advance, Highly efficacious & Eco-friendly Solution to Your Dandruff Problems**

- An aqueous, ready to use, preservative free, synergistic anti-dandruff composition for scalp (dandruff) treatment
- High anti-dandruff activity at very low conc. In comparison to current AD actives, reducing the environmental toxicity impact
- High bio-availability which enhances its efficacy even upto epidermal cells to treat dandruff
- Helps in regulation of mammalian keratinous tissues

### Dose Levels:

- Hair-Care
  - Rinse-off products: 0.25%- 1.0%
  - Leave-on products: 0.1% - 0.25%
- Deodorants & Antiperspirants: < 2.0%
- Hygiene Products: Upto 1.0%
- Anti-fungal/Anti-bacterial OTC Creams and Lotions: Upto 2.0%

### Jubiguard PEHG

#### Phenoxyethanol Based Eco-Friendly (Paraben & Formaldehyde Free) Preservative System With Efficacy Boosting Ethylhexylglycerin

##### General Properties

- Liquid, eco-friendly, colourless, odourless and versatile cosmetic preservative.
- Broad spectrum - effective against yeast, moulds, fungi and bacteria.
- Free of Parabens, MIT/CMIT and formaldehyde donors.
- Effective in broad pH range (4-8).
- Excellent compatibility with salts and pigments (TiO<sub>2</sub>, sulphite ions etc). No discoloration observed.
- Stable to hydrolysis, temperature and pH
- Effective in pH-ranges up to 12
- Oil soluble and soluble in glycerine
- Widely accepted in USA, EU, Japan, Australia and Canada.

##### Product Variants

- Jubiguard PEHG 90: Phenoxy ethanol (90%)
- Jubiguard PEHG 85: Phenoxy ethanol (85%)
- Jubiguard PEHG 70: Phenoxy ethanol (70%)

##### End Applications

- Rinse-off: Shampoo, Conditioner, Liquid soap, Shower gel etc.
- Leave-on: Creams & Lotions (O/W & W/O emulsions); Deodorants
- Wet-wipes, Eye-care, Lip-care & Baby Products.

### Typical Specifications

- Appearance: Colourless to Light Yellow Solution
- Odour: Characteristics
- Density: 1.03 – 1.10 g/mL
- Solubility: 1.0% (in water); Soluble in Glycols & Ethanol

### Dose Levels:

- Rinse-Off: 0.5 - 1.15 %
- Leave-on: 0.1-1.0 %

### Jubiguard PCG

#### Phenoxyethanol Based Eco-Friendly (Paraben & Formaldehyde Free) Preservative System With Efficacy Boosting Caprylyl Glycol

##### General Properties

- Liquid, eco-friendly, colourless, odourless and versatile cosmetic preservative.
- Broad spectrum - effective against yeast, moulds, fungi and bacteria.
- Free of Parabens, MIT/CMIT and formaldehyde donors.
- Effective in broad pH range (4-8).

##### Product Variants

- Jubiguard PCG 55: Phenoxy ethanol (55%)
- Jubiguard PCG 57: Phenoxy ethanol (57%)
- Jubiguard PCG 75: Phenoxy ethanol (75%)

##### End Applications

- Rinse-off: Shampoo, Conditioner, Liquid soap, Shower gel etc.
- Leave-on: Creams & Lotions (O/W & W/O emulsions)
- Wet-wipes, Eye-care, Lip-care & Baby Products.

### Typical Specifications

- Appearance: Colourless to Light Yellow Solution
- Odour: Characteristics
- Solubility: 0.6% (in water); Miscible in Ethanol & Glycols

### Dose Levels:

- Rinse-Off: 0.5 - 1.5 %
- Leave-On: 0.5 - 1.75%

## 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

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.

### 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](mailto:SILSC@jubl.com)  
To know more log on to: [www.jubl.com/lsci](http://www.jubl.com/lsci)

