

Imidazolidinyl Urea

PRODUCT IN FOCUS



Imidazolidinyl Urea

INTRODUCTION

Imidazolidinyl urea is a widely used antimicrobial preservative in the cosmetic and personal care industry. It is a formaldehyde-releasing compound that effectively inhibits the growth of bacteria, yeast, and molds, thereby extending the shelf life of formulations. Due to its broad-spectrum efficacy and cost-effectiveness, it is commonly used in rinse-off and leave-on products within regulated concentration limits.

MANUFACTURE

It is manufactured by controlled condensation of urea and allantoin with formaldehyde under regulated temperature and pH conditions.

The reaction mass is then stabilized, purified, and dried to obtain a preservative with consistent quality and low free formaldehyde content.

APPLICATIONS

It is widely used as an effective antimicrobial preservative, mainly in cosmetic and personal care formulations. Its key applications include:

- ✔ **Skin care products:** Creams, lotions, moisturizers, sunscreens, serums, and hand creams to prevent microbial contamination.
- ✔ **Hair care products:** Shampoos, conditioners, hair masks, and styling gels to ensure product stability during storage and use.
- ✔ **Chronic iron deficiency conditions:** Suitable for long-term iron supplementation in conditions requiring sustained iron replacement, including chronic blood loss or malabsorption.
- ✔ **Cleansing products:** Facial cleansers, makeup removers, and hand washes.
- ✔ **Baby care products:** Used in regulated concentrations in wipes and mild formulations (subject to regional regulations).
- ✔ **Cosmetic formulations:** Foundations, makeup bases, and other water-based cosmetics.

Imidazolidinyl urea is often combined with other preservatives (such as parabens) to achieve broad-spectrum antimicrobial protection, especially against bacteria, yeast, and molds.

Synonym(s)	N,N''-Methylenebis-{N'-[3-(hydroxymethyl)-2,5-dioxo-4-imidazoliny]-urea}
CAS no.	39236-46-9
EINECS no.	254-372-6
Molecular formula	C ₁₁ H ₁₆ N ₈ O ₈
Molecular weight	388.29
Structure	

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SPECIFICATIONS

Test	Unit	Specification
Description	-	White odourless, tasteless powder
Solubility	-	Soluble in water, glycerin Sparingly soluble in propylene glycol Insoluble in most organic solvents
Identification	-	The infrared absorption spectrum of the sample should be concordant with the IR spectrum obtained from Imidurea WS/RS
Color & clarity of solution	-	The solution is clear & colourless
pH	-	Between 6.0 and 7.5
Loss on drying	%	Not more than 3.0
Residue on ignition	%	Not more than 3.0
Heavy metal	%	Not more than 0.001
Nitrogen content (on dried basis)	%	Between 26.0 and 28.0

PACKING

25 kg cardboard box.

STORAGE

Keep container tightly closed in a dry and well-ventilated place.

REACH status

Not registered.

ExSyn offers Imidazolidinyl urea on commercial scales and welcomes enquiries. Our exceptional quality and service will make ExSyn your supplier of choice! If you need any additional information or SDS, please contact us.