



VERSENE™ NA Chelating Agent



An Effective Stabilizer and Preservative for Pharmaceutical Preparations

VERSENE™ NA Chelating Agent is an effective stabilizer and preservative for pharmaceutical preparations, including medicated creams and ointments, ocular care, syrups and elixirs. This edetate disodium USP-grade product controls metal ions present in pharmaceutical formulations or processes. Left unchecked, these metals can reduce potency and performance, harm product appearance, and reduce shelf life.

VERSENE™ NA Protects Products Three Ways:

- **Antioxidant** - VERSENE™ NA Chelating Agent acts as an antioxidant, controlling oxidation which can lead to degradation and rancidity of emulsions, color changes, off-odors and reduced in-process and shelf life.
- **Antimicrobial booster** - Used as part of a preservative package, VERSENE™ NA Chelating Agent boosts the performance of many antimicrobials

by affecting the structure and viability of microbial cell walls.

- **Vitamin stabilizer** - VERSENE™ NA helps stabilize vitamins in formulations, including vitamins B and C. It is particularly useful in stabilizing vitamin B12 in multivitamin preparations containing iron. There are indications that the stability of vitamins A, D and E may also be improved through the use of VERSENE™ NA Chelating Agent.

Applications:

VERSENE™ NA Chelating Agent provides protection against metal-catalyzed reactions in a variety of pharmaceutical preparations, including:

Ocular care and nasal spray products

VERSENE™ NA is used at a concentration level of 0.05% to boost the antimicrobial performance of formulation preservative packages used in ocular care and nasal spray products.

Syrups and elixirs

The color, flavor and ingredients of

syrups, elixirs, and other pharmaceutical liquids can also be protected through the addition of 0.1% or less VERSENE™ NA Chelating Agent.

Medicated creams and ointments

VERSENE™ NA Chelating Agent is commonly used at a concentration level of 0.1-0.3% to prevent or control oxidative rancidity in medicated creams and ointments.

API Preservative

Active pharmaceutical ingredients (APIs) are often sensitive to oxidation or chemical attack either through direct attack or catalysis by transition metal ions. The addition of VERSENE™ NA Chelating Agent can minimize these effects. Unless additional quantities of multivalent cations are added to the product, 0.1% VERSENE NA is recommended as a starting point.

Vitamin and liquid nutritional drinks

VERSENE™ NA improves the overall stability of these beverages and acts as a preservative for vitamins B, C and E.

Mouthwash

The clarity of oral care solutions is improved with the addition of VERSENE™ NA.

Tablet coatings

VERSENE™ NA is used as a solution preservative and stabilizer to extend the in-process life of tablet coatings.

USP Qualification

VERSENE™ NA Chelating Agent is certified to the requirements of the U.S. Pharmacopeia. (The product will also meet the requirements of the European Pharmacopeia, Japanese Pharmacopeia, and British Pharmacopeia, however, certification to these standards will involve additional charges). VERSENE™ NA does not qualify as an injectable grade material and is not manufactured to such standards.

Available Packaging

VERSENE™ NA is available in 100 lb. net lever-lock fiber drums. Fifty-kg. containers and special packages are also available.

Product Stewardship

Dow encourages its customers and potential users to review their applications from the standpoint of human health and environmental aspects. To help ensure that Dow products are not used in ways for which they are not intended or tested, Dow personnel will assist customers in dealing with environmental and product safety considerations. Dow literature, including Material Safety Data Sheets (SDS), should be consulted prior to the use of Dow products.

To learn more about VERSENE™ Chelating Agents for pharmaceutical product applications, contact the Dow location in your area, as listed below.

For more information, contact us at your convenience:

www.versene.com	North America	+1 (800) 441-4369	The Dow Chemical Company 2030 Dow Center Midland, MI 48674
	Latin America	+55 (115) 188-9222	
	Europe	+8 (003) 694-6367	
	Pacific	+8 (007) 776-7776	

Notice: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. The technology represented in this document may not yet be registered, and related products may not yet be available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

Notice: Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by Dow of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for Dow, or for specific products manufactured by Dow.

References to "Dow" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted.

©™Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow