

# GreenGard™ PA

## Natural, Biodegradable Chelating Agents



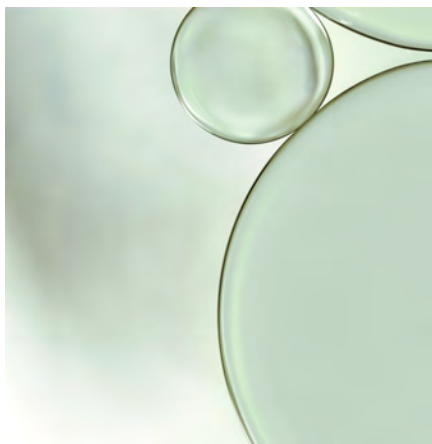
### Product Description

The GreenGard™ PA line is the sustainable solution for chelation and oxidation protection in formulations. Derived from rice, these environmentally friendly chelating agents offer a 1:1 replacement for disodium EDTA and tetrasodium EDTA. Unlike EDTA, GreenGard™ PA is biodegradable, mitigating environmental pollution risks associated with non-biodegradable ingredients. This blend forms a complex that effectively guards against toxic metal mobilization from sediments in waterways, ensuring the preservation of aquatic ecosystems.



### Key Attributes:

- 100% Biobased
- Water soluble
- Rice derived
- Ideal for all product categories
- High biodegradability



### Product Function

The GreenGard™ PA line uses different combinations of phytic acid to prevent catalytic oxidation processes accompanied by the degradation and discoloration of the product. It is used to help prevent deterioration, increase effectiveness, and improve the stability of a formulation.

Trade Name/INCI	Form
GreenGard™ PA / Phytic Acid, Water	Liquid
GreenGard™ PA3 / Sodium Phytate, Water, Alcohol	Liquid
GreenGard™ PA12 / Sodium Phytate	Powder

## Chelating Capacity Testing



## Product Performance

GreenGard™ PA shows very effective results for chelating capacity for different heavy metal ions when compared to EDTA at pH = 6. As a more biodegradable option to EDTA, GreenGard™ PA is also able to guard against metal ion mobilization in waterways.

### RECOMMENDATION:

USE LEVEL: 0.05-0.20%

### PROCEDURE:

Add GreenGard™ PA directly to water phase.

### Formulation Tips

- GreenGard™ PA3 is not for alcohol-free formulations.
- GreenGard™ PA12 is useful for higher pH batches, optimal at pH of 6 or greater.
- GreenGard™ PA12 should be added prior to other water phase ingredients.

**SHELF LIFE:** 12 months

**PACKAGING:** 18 kg pail or 180 kg drum