



# Introduction

XanMax<sup>®</sup> is a portfolio of free lutein: zeaxanthin ingredients created for optimal eye health and healthy aging. Lutein helps support eye health and may help reduce the risk of progression to advanced age-related macular degeneration (AMD) as demonstrated in the AREDS 2 study\*. The macular pigment is a region of the retina that plays a vital role in our vision. XanMax<sup>®</sup> Free Lutein: Zeaxanthin complex may help to improve visual performance with prolonged screen use in healthy individuals. Lutein and Zeaxanthin have also been shown to benefit cognitive health in all age groups, from infants to late adulthood.

XanMax<sup>®</sup> is extracted and purified from marigold flowers, *Tagetes erecta*. XanMax<sup>®</sup> represents a comprehensive range of Lutein and Zeaxanthin extracted from marigold that delivers high quality at a competitive price point. XanMax<sup>®</sup> is ideal for a quality focused brand that wants to deliver superior eye products at competitive prices to its customers. XanMax<sup>®</sup> is also available in an organic option.

# Features & Benefits

Full range of lutein/zeaxanthin complex of blends to suit a wide array of applications
Multiple forms available: oils, powders, beadlets, water dispersible fluid and cold water-dispersible powder
Lutein and zeaxanthin at customized ratios based on formulation needs
Traceability to the marigold seeds and farms
Non-GMO Project Verified products available
U.S. Patents issued for the isolation of lutein and zeaxanthin carotenoids from marigold
High bioavailability forms are available for use in oil, powder and aqueous applications
XanMax <sup>®</sup> grades are available to match the AREDS 2 formula carotenoids dose of 10 mg lutein, 2 mg zeaxanthin for formulation ease
Organic XanMax® is Lutein:Zeaxanthin in an organic sunflower oil base, standardized to: 20% Free Lutein 1% Trans-Zeaxanthin – the naturally occurring form

# Formulating with XanMax<sup>®</sup>

The XanMax<sup>®</sup> product line is a highly flexible, customizable selection of Lutein/Zeaxanthin products. XanMax<sup>®</sup> is available in multiple product forms for use in oils, tablets, capsules, softgels, and functional foods and beverages, with low minimums. It is also available in flexible packing options to suit requirements both large and small. XanMax<sup>®</sup> is available in powder, beadlets, oil and water dispersible grades. Organic XanMax<sup>®</sup> is available in an oil form.

NutriScience

# Clinical Studies and Science

### Vision Health

The benefits of lutein and zeaxanthin for eye health have been well established. Clinical studies have shown that the AREDS 2 formula may help reduce the risk of progression to advanced, age-related macular degeneration (AMD) and may help patients keep their vision longer if they have intermediate AMD or advanced AMD in one eye. A clinical study with XanMax<sup>®</sup> 2002 (20% Lutein / 2% Zeaxanthin) demonstrated a statistically significant increase of 40% in macular pigmentation density. Bioavailability is dependent on the form of the ingredient. Studies on bioavailbility show efficient uptake in the blood for up to 24 hours for various forms. Animal studies show that XanMax® lutein:zeaxanthin bioavailability is the same as that of other quality brands.

#### **Cognitive Health**

In 2017, a large-scale longitudinal study found that plasma levels of lutein and zeaxanthin are associated with improved cognitive function in adults. It was found that supplemented patients experienced significant increases in brain blood flow in areas of the brain vital to cognition and memory. Other studies have demonstrated effects of lutein and zeaxanthin supplementation as: Producing a "brain maintenance effect" by shielding against the impact of aging on cognitive performance and enhancing brain blood flow in the specific areas that support cognitive function.

### XanMax<sup>®</sup> Lutein : Zeaxanthin Complexes

- Lutein : Zeaxanthin 5:1
- Lutein : Zeaxanthin 10:1
- Lutein : Zeaxanthin 20:2 •
- Lutein: Zeaxanthin 20:4

### Organic XanMax<sup>®</sup>

Organic Lutein : Zeaxanthin 20:1 Oil

### Structure/Function Claims for Vision Health

Su	Ipports eye health
Su	ipports healthy vision
M	ay benefit driving at night
M	ay improve contrast sensitivity
He	ealthy eye strength and focus
Re	eduction in occasional eye fatigue
He	elps maintain macular pigment density as we age
	ay improve visual performance with prolonged reen use in healthy individuals
	ay improve visual performance when the nbient illumination is low
Ar	ntioxidant support for eyes

### Source

Extracted from marigold flowers, Tagetes erecta, traceable to the seeds & farms. Organic XanMax® complies with USDA Organic Standards.

### Tel: (203) 372-8877 | Sales@NutriScienceUSA.com

NutriScienceUSA.com | Fax: (203) 372-9977

### Structure/Function Claims for Cognitive Health

May promote cognitive functions

- Helps increase MPOD, which has been correlated to improve reaction time
- Helps increase MPOD, which has been correlated to increased visual process speed

## Certifications & Quality Assurance

	Non-GMO Project Verified forms available
	USDA Organic Certified option available
	Kosher
	Halal
	Vegan & Vegetarian compliant
_	··· . ·

### Applications

Softgels	
Capsules	
Tablets	
Functional Foods & Beverages	

### Safety and Regulatory

Lutein and Zeaxanthin are pre-1994 dietary ingredients. All the components of XanMax® products are GRAS.

\*National Eye Institute, National Institute of Health, "Age-Related Eye Disease Study 2 (AREDS 2)"



© 2021 NutriScience Innovations 11C The information contained herein is intended for husiness-to-business only and is not intended for consumers or other third parties. NutriScience Innovations 11C does not sell products to consumers. This information may not be a per functione movements, tech me more movements internet or usines recruiting suppose supposes on an is not mention or consumer or outrained movements, tech me more movements, tech uses not seen to user to use any outcas to consumer so that and the set of the se Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

XanMax® is part of an exclusive portfolio of proprietary ingredients from NutriScience Innovations, LLC, and is a registered trademark of Katra Phytochem India Pvt. Ltd