

Lutein / Zeaxanthin / Astaxanthin

Carotenoid antioxidants for eye health

Product Description

Lutein, Zeaxanthin and Astaxanthin are carotenoid antioxidants used in eye health nutraceuticals and functional food products. Available as natural extracts.

Certificate of Analysis

HSN Code: 3203.00

CAS Number: Lutein: 127-40-2 / Zeaxanthin: 441-68-8 / Astaxanthin: 72-61-7

Classification: Carotenoid Antioxidant

Parameter	Specification	Test Method
Appearance	Orange to dark red powder or oil	Visual
Assay (Lutein)	"e 5 % , "e 2 0 % o r a s p e r g r a d e	HPLC (UV 446 nm)
Identification	UV absorption maximum at 446 nm (lutein)	UV / HPLC
Related Carotenoids	As per grade specification	HPLC
Residue on Ignition	As per grade	USP <281>
Solvent Residues	Conforms to ICH Q3C limits	GC
Heavy Metals	"d 1 0 p p m	USP <231>

Physical Properties

Appearance: Orange to dark red powder or oil (depending on grade)

Molecular Formula: Lutein: $C_{40}H_{56}O$ / Zeaxanthin: $C_{40}H_{56}O$ / Astaxanthin: $C_{42}H_{64}O$

Molecular Weight: Lutein: 568.87 g/mol / Zeaxanthin: 568.87 g/mol / Astaxanthin: 596.84 g/mol

Solubility: Practically insoluble in water; soluble in oils and chlorinated solvents

Melting Point: Lutein: 190°C / Zeaxanthin: 219–222°C / Astaxanthin: 216°C

Packing: 25 kg HDPE drums; 1 kg, 5 kg aluminium foil pouches (nitrogen-flushed)

Storage: Store in a cool, dry place away from light. Below 15°C. Under nitrogen blanket.

Safety & Handling

PPE: Gloves, safety goggles, dust mask, lab coat

Hazards:

- Light and oxygen sensitive
- Staining