

Post-Bleaching Vitamin E Treatment**SECTION I - PRODUCT/ COMPANY IDENTIFICATION**

Product Name: REF 360084 E-Lieve™ Post-Bleaching Vitamin E Treatment, 120 x 0.3ml units

CENTRIX, INC., 770 RIVER ROAD, SHELTON, CT 06484

Emergency / Information Telephone Numbers: 203-929-5582

Toll-Free: 800-235-5862 (USA & Canada)

SECTION II - COMPOSITION/INFORMATION ON INGREDIENTS

Characterization: Fat-soluble vitamin; additive for use in food, pharmaceuticals and cosmetics

Chemical Name: 3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-ol acetate

Synonyms: 2,5,7,8-Tetramethyl-2-(4,8,12-trimethyltridecyl)-6-chromanol acetate, Vitamin E acetate

CAS Number: 7695-91-2

EINECS Number: 231 710 0

Ro Number: Ro 01-4213/000

Empirical Formula: C₃₁H₅₂O₃

Molecular Mass: 472.73 g/mol

SECTION III - HAZARDS IDENTIFICATION

Most important hazards - No particular hazards known.

SECTION IV - FIRST AID MEASURES

Eye Contact: Rinse with tap water for 10 minutes - open eyelids forcibly, Consult a physician if irritation persists

Skin Contact: Remove immediately contaminated clothes. Wash affected skin with water and soap. Do not use any solvents.

Consult a physician if skin irritation persists

Inhalation: Remove the casualty to fresh air and keep him/her calm in the event of symptoms get medical treatment

Note to Physician: Treat symptomatically

SECTION V - FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Foam, dry powder, carbon dioxide, water mist

Unsuitable Extinguishing media: Use water spray and water jet for cooling purposes only (fat explosion hazard)

Protection of Fire-Fighters: Precipitate gases/vapours/mists with water spray

SECTION VI - ACCIDENTAL RELEASE MEASURES

Environmental Protection: Do not allow to enter drains or waterways.

Nontoxic and biodegradable, but very slow biodegradation due to low water solubility

Methods for cleaning up: Collect spills with inert adsorbent and hand over to waste removal. Clean contaminated areas with little ethanol

SECTION VII - HANDLING AND STORAGE**Handling**

Technical Measures: Processing in closed systems, if possible superposed by inert gas (e.g. nitrogen).

Take precautionary measures against electrostatic charging

Suitable Materials: Stainless steel, aluminium, enamel, glass, polyethylene - test plastics before use

Storage

Storage Conditions: Protected from light and humidity

Validity: 36 months, < 25 °C, in the unopened original container, see "best use before" date stated on the label

Packaging Materials: Tightly closing; material: stainless steel, aluminium, enamel, glass, food-approved plastics

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures: See 7.

Monitoring

Threshold Value (Roche) Air: IOEL: 10 mg/m³

Analytics: Sampling on filter or impinger and chemical determination (consider possible autooxidation)

Personal Protective Equipment

Respiratory Protection: Respiratory protection not necessary during normal operations

Hand Protection: Protective gloves (neoprene, nitrile or butyl rubber)

Eye Protection: Safety glasses

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Colour: Slightly yellowish
Odour: Almost odourless
Viscosity: 6589 cP (20 °C)
well soluble, ethanol, well soluble, acetone, well soluble, chloroform, well soluble, diethyl ether, well soluble, vegetable oils
Partition Coefficient: Log P_{ow} 12.2 (n-octanol/water)(calculated)
Melting Temperature: -27.5 °C
Flash Point (liquid): 243 °C (DIN 51'728)

Form: Liquid, viscous
Density: ~ 0.96 g/cm³
Solubility: < 0.8 mg/l, water (20 °C, OECD No. 105)
Boiling Temperature: 443 °C (1 bar)
Ignition Point (liquid): 320 °C (DIN 51'794)

SECTION X - STABILITY AND REACTIVITY

Conditions to Avoid: Light, humidity
Materials to Avoid: Bases, strong acids, Oxidizing agents Iron, silver and metal salts, Alkalis *1
*1 referring to: d- α -Tocopheryl Acetate

SECTION XI - TOXICOLOGICAL INFORMATION

Acute Toxicity: LD₅₀ > 4'000 mg/kg (oral, rat)
LD₅₀ > 4'000 mg/kg (oral, mouse)
LD₅₀ 840 mg/kg (i.p., rat)
LD₅₀ > 3'000 mg/kg (dermal, rat)
Local Effects: Eye: non-irritant (rabbit)
Skin: May be slightly irritating (several species)
Sensitization: Very few cases of sensibilisation are known (human) *2
Subchronic Toxicity: NOAEL 2000 mg/kg/d (oral, rat; 13 weeks) *1
Mutagenicity: Not mutagenic (various test systems)
Carcinogenicity: Not carcinogenic
Reproduction Toxicity: Not teratogenic
Note: Natural radical scavenger and antioxidant *2
Therapeutic dosage: 100-300 mg/d *2
High doses may cause nausea, vomiting, diarrhoea, fatigue and weakness *2
Intensive skin contact may cause contact dermatitis *2
RDA (Recommended Dietary Allowance): 8-10 mg/day *2

*1 referring to: d- α -Tocopheryl Acetate

*2 referring to: dl- α -Tocopherol

SECTION XII - ECOLOGICAL INFORMATION

Ready Biodegradability: Not readily biodegradable, 17%, 28 days (Manometric Respirometry Test, OECD No. 301 F)
Inherent Biodegradability: Well inherently biodegradable 84%, 28 days (MITI Test II, OECD No. 302 C)
Ecotoxicity: Barely toxic for algae (nominal concentration = 100 mg/l),
test performed with water accommodated fractions (*Selenastrum capricornutum*)
EC₅₀ (72 h) > 100 mg/l (nominal concentration)
NOEC (72 h) 100 mg/l (nominal concentration) (OECD No. 201) *1
Barely toxic for planktonic crustaceans (nominal concentration = 100 mg/l),
test performed with water accommodated fractions (*Daphnia magna*)
NOEC (48 h) 100 mg/l (nominal concentration)
EC₅₀ (48 h) > 100 mg/l (nominal concentration) (OECD No. 202)
Barely toxic for fish (nominal concentration = 100 mg/l), test performed with water accommodated fractions (rainbow trout)
LD₅₀ (96 h) > 100 mg/l (nominal concentration)
NOEC (96 h) 100 mg/l (nominal concentration)
(OECD No. 203, semi-static) *1
Barely toxic for fish (nominal concentration = 100 mg/l),
no chronic toxic effects have been observed at or above solubility limit (rainbow trout)
NOEC (28 d) 100 mg/l (nominal concentration)
(OECD No. 215, Fish Juvenile Growth Test)
No adverse influence on substrate biodegradation (activated sludge)
concentration (28 d) 100 mg/l (nominal concentration)
(Manometric Respirometry Test, OECD No. 301 F) *1

Air Pollution: Observe local/national regulations

*1 referring to: d- α -Tocopheryl Acetate

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste from Residues: Observe local/national regulations regarding waste disposal

SECTION XIV - TRANSPORT INFORMATION

Note: Not classified by transport regulations

SECTION XV - REGULATORY INFORMATION

Note: No classification and labelling according to EU directives
Water hazard class (Germany) 1: weakly hazardous for water
(according to annex 1 or 2 of directive VwVwS of 17.05.1999)

SECTION XVI - OTHER INFORMATION

Use: For the enrichment of foods,
Ingredient in pharmaceutical preparations
For various cosmetic products

Biological activity: 1 I.U. (International Unit) of vitamin E corresponds to the activity of 1.0 mg pure dl- α -tocopheryl acetate

Safety-lab number: BS-1762, BS-1765, BS-4527, BS-7412

Edition documentation: Changes from previous version in sections 1, 2, 4, 7, 8, 13, 16

PRODUCT FOR PROFESSIONAL USE ONLY.

IMPORTANT NOTICE: DSM N.V., headquartered in Heerlen, The Netherlands, has acquired the vitamins, carotenoids, enzymes, food and feed ingredients, cosmetics ingredients and fine chemicals business (VFC Business) of the Roche group of companies, headquartered in Basel, Switzerland. Within the United States, DSM Nutritional Products, Inc. has purchased certain assets and assumed certain liabilities of the VFC Business formally conducted by Roche Vitamins Inc. Please note that corporate names, trade names, trade and service marks and domain names containing the word "Roche" and the "Roche" logo will continue to appear on our business documentation during our transition. We appreciate your understanding and cooperation as we complete our rebranding program. Should you have any questions, or if DSM can be of further assistance to you, please do not hesitate to contact your Account Manager or our Account Management Center at: +41-62 866 2314.

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CENTRIX INCORPORATED

770 River Road, Shelton, CT 06484 USA
(800) 235-5862 Tel: (203) 929-5582
Fax: (203) 929-6804

CE
0510



CENTRIX EUROPE

Hauptstrasse 64 B, 65719 Hofheim, Germany

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