



Certificate of Analysis

Product: Vitamin E Synthetic

Batch Number: Best 4479501

Before End: August 2025

| Test | Analysis | Specification |
|--------------------------------------|---|---|
| Description | Clear colourless slightly green/yellowish oil EP/USP/FCC | Clear colourless slightly green/yellowish oil EP/USP/FCC |
| Optical Rotation | 0° | (-0.01 - +0.01 EP) |
| IR | Conforms | To conform EP/USP/FCC |
| Colour Reaction | Conforms | To conform USP/FCC |
| Retention Time, GC | Conforms | To conform USP/FCC |
| Impurity A | <0.1% | ≤ 0.5% EP |
| Impurity B | 0.68% | ≤ 1.5% EP |
| Impurity C | <0.1% | ≤ 0.5% EP |
| Impurity D and E | <0.1% | ≤ 1.0% EP |
| Any Other Impurities | <0.1% | ≤ 0.25% EP |
| Total Impurities | 0.68% | ≤ 2.5% EP |
| Acidity | 0.07 | ≤ 1.0ml, USP/FCC |
| Residual Solvents | Conforms | ≤ 0.5% In-house |
| Heavy Metals | <0.5mg/kg (BLD) | ≤ 2mg/kg, FCC |
| Arsenic | <1mg/kg | ≤ 1mg/kg In-house |
| Copper | <2mg/kg (BLD) | ≤ 25mg/kg In-house |
| Zinc | <2mg/kg (BLD) | ≤ 25mg/kg In-house |
| Assay | 99.20% | 96.5% - 102.0% EP |
| | 99.20% | 96.0% - 102.0% USP/FCC |
| Total Aerobic Microbial Count | <10cfu/g | ≤ 1000cfu/g EP/USP |
| Total Yeast and Mould Count | <10cfu/g | ≤ 100cfu/g EP/USP |
| Escherichia coli | n.d./g EP/USP | n.d |
| Salmonella | n.d./g EP/USP | n.d |
| Pseudomonas Aeruginosa | n.d./g EP/USP | n.d |
| Staphylococcus Aureus | n.d./g EP/USP | n.d |
| Bile-Tolerant Gram-Negative Bacteria | n.d./g EP/USP | n.d |



Product Information

Allergen Statement

NK Chemicals Product Name: **Vitamin E Synthetic**

We hereby certify that to the best of our knowledge, our product DL-alpha Tocopheryl Acetate does not contain any allergen as declared in the Directive 2007/68/EC and US Food Allergen Labelling and Consumer Protection Act of 2004 (FALCPA.)

This product does not contain any of the following allergenic substances:

Cereals containing gluten and products thereof

Crustaceans and products thereof

Eggs and products thereof

Fish and products thereof

Peanuts and products thereof

Soybeans and products thereof

Milk and milk products thereof (incl. lactose)

Nuts and products thereof

Celery and products thereof

Mustard and products thereof

Sesame seeds and products thereof

Sulphur dioxide and sulphites at concentrations of at least 10 mg/kg or 10mg/litre expressed as SO₂

Lupin and products thereof

Molluscs and products thereof

This is an electronically generated document and is valid without a signature

25th February 2021



Product Information

COMPOSITION DECLARATION

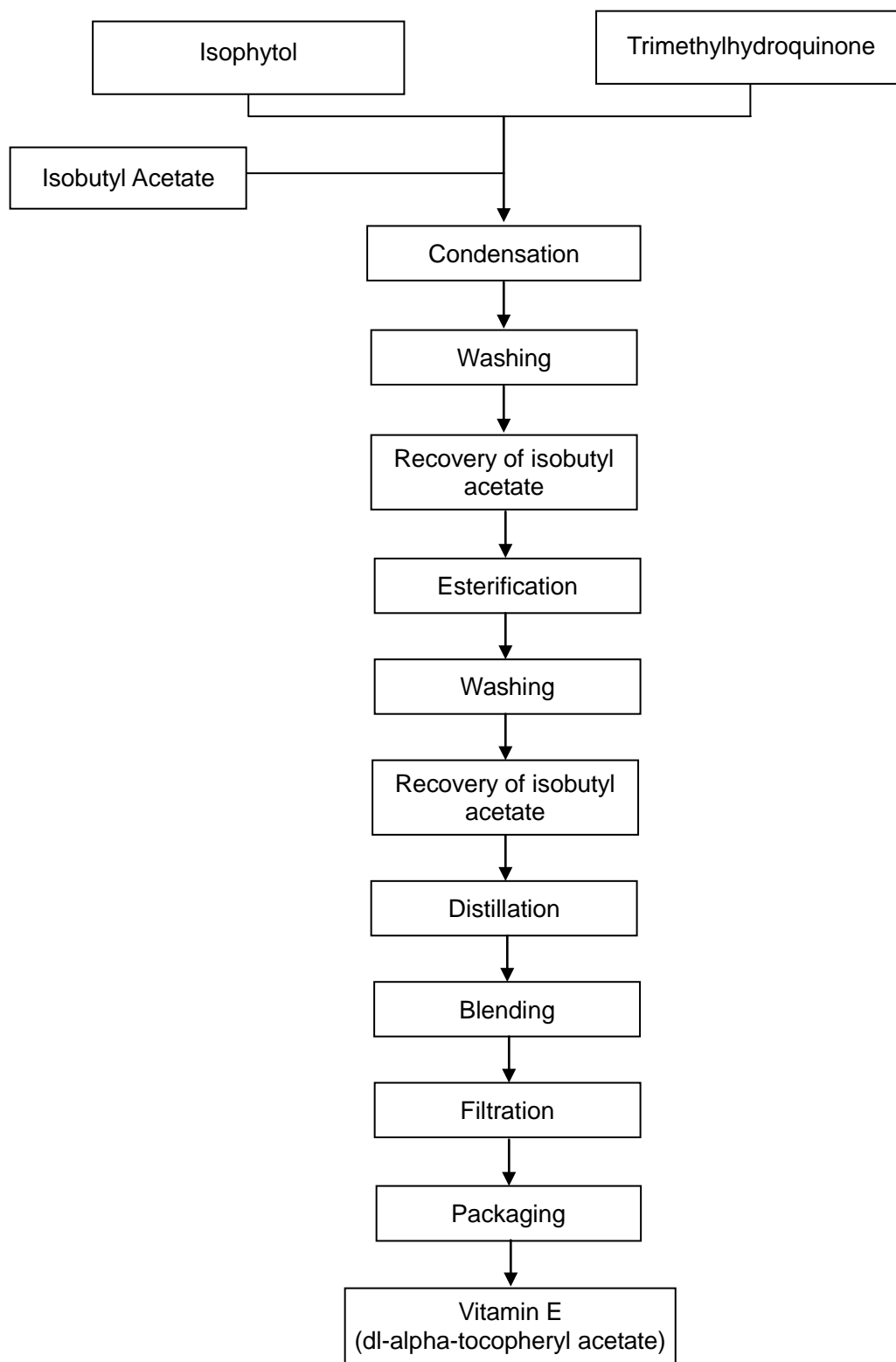
Product Name: **Vitamin E Synthetic**

| Ingredients | Composition |
|-------------------------------|-------------|
| 1 DL-alpha-Tocopheryl Acetate | 100.0%** |

*The data is based on average.

** No excipients are added to this product.

Flow Chart





Product Information

Vitamin E Synthetic

We hereby declare that the above mentioned material does not contain, to the best of our knowledge, any material derived from GM sources.

For Barentz UK Ltd

09/07/2021

Vitamin E Synthetic**Section 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product Identifier**

Product name: Vitamin E Synthetic
CAS number: 7695-91-2
EINECS number: 231-710-0
INCI Name: Tocopheryl Acetate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: Used as a nutrient/Cosmetics

1.3. Details of the supplier of the safety data sheet

Supplier Name: Madar Corporation Limited
Supplier Address: 19 - 20 Sandleheath Industrial Estate
Fordingbridge
SP6 1PA
United Kingdom

Supplier Telephone: +44 (0)1425 655 555
Email: technical@madarcorporation.co.uk

1.4. Emergency telephone number

Telephone: +44 (0)1924 844820 (office hours only)

Section 2: Hazards Identification**2.1. Classification of the substance or mixture**

No particular hazards known

2.2. Label elements

No particular hazards known

2.3. Other hazards

PBT: This substance is not identified as a PBT substance

Section 3: Composition/information on ingredients**3.1. Substances**

Vitamin E Synthetic**Chemical identity:** Vitamin E Synthetic**Section 4: First aid measures****4.1. Description of first aid measures**

Skin contact: Remove all contaminated clothes and footwear immediately. Wash immediately with plenty of soap and water.
Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.
Ingestion: Rinse mouth and then drink plenty of water
Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so.

4.2. Most important symptoms and effects, both acute and delayed

In some cases of exposure, the following symptoms may be observed:

Skin contact: Not applicable
Eye contact: Not applicable
Ingestion: Not applicable
Inhalation: Not applicable

4.3. Indication of any immediate medical attention and special treatment needed

Skin contact: Not applicable
Eye contact: Not applicable
Ingestion: Not applicable.
Inhalation: Not applicable

Section 5: Fire-fighting measures**5.1. Extinguishing media**

Extinguishing media: Water, Carbon Dioxide, Foam, Dry extinguishing media

5.2. Special hazards arising from the substance or mixture

Exposure hazards: No particular hazards known

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear a self-contained breathing apparatus

Section 6: Accidental release measures

Vitamin E Synthetic

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Not applicable

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Apply good manufacturing practice & industrial hygiene practices, ensuring proper ventilation. Observe good personal hygiene, and do not eat, drink or smoke whilst handling

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.
Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Not applicable

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: Not applicable.

8.2. Exposure controls

Vitamin E Synthetic

Engineering measures: Ensure there is sufficient ventilation of the area.
Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.
Hand protection: Protective gloves.
Eye protection: Safety goggles.
Skin protection: Protective clothing with elasticated cuffs and closed neck.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid
Colour: Pale yellow /greenish oily liquid
Odour: Odourless
Solubility in water: insoluble
Soluble in: freely soluble in acetone, in anhydrous ethanol and in fatty oils
Relative Density: 0.95~0.96 g/cm³ (approx.20°C)
Flash point: 210 °C ~243 °C
Initial Boiling Point: >300°C
Vapor pressure Approx.1.4 mbar (approx.240°C)
 Approx.4.0 mbar (approx.270°C)
Partition coefficient: Log Pow 12.26 (n-octanol/water) (calculate at 25 °C)
Viscosity: 6.31-6.59 Pa·s (20 °C)

9.2. Other information

Not applicable

Section 10: Stability and reactivity

10.1. Reactivity

Not applicable

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not applicable

10.4. Conditions to avoid

Conditions to avoid: Heat and Light

Vitamin E Synthetic

10.5. Incompatible materials

Incompatible materials: Alkali, Strong acids, metal salts, oxidising agents.

10.6. Hazardous decomposition products

Haz. decomp. products: No hazardous decomposition products if handled and stored as indicated.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

| Route | Species | Test | Value | Units |
|-------|---------|------|----------|-------|
| ORL | MOUSE | LD50 | > 10,000 | mg/kg |

Symptoms / routes of exposure

Not applicable

Section 12: Ecological information

12.1. Toxicity

Quantitative data on the ecologic effect of this product are not available.

12.2. Persistence and degradability

Persistence and degradability: Inherently biodegradable

12.3. Bioaccumulative potential

Not data available

12.4. Mobility in soil

Mobility: Dispersible in water.

12.5. Results of PBT and vPvB assessment

PBT identification: This substance is not identified as a PBT substance.

Vitamin E Synthetic

12.6. Other adverse effects

Not applicable

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Must be disposed of in accordance with local and national regulations.
Disposal of packaging: Dispose of as normal industrial waste.
NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: Not classified for transport

14.2. UN proper shipping name

UN proper shipping name: Not applicable.

14.3. Transport hazard class(es)

Transport hazard class: Not applicable.

14.4. Packing group

Packing group: Not applicable.

14.5. Environmental hazards

Environmental hazards: Not classified as environmentally hazardous according to UN Model Regulations (IMDG, ADR, RID and ADN)

14.6. Special precautions for user

Disposal operations: Must be disposed of in accordance with local and national regulations.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Transport in bulk: Product will not be transported in bulk

Section 15: Regulatory information

Vitamin E Synthetic**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Not applicable

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: Other information**Other information**

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Vitamin E Synthetic

INCI Name: DL-alpha Tocopheryl Acetate
Cas No: 7695-91-2 / 231-710-0

Tocopheryl Acetate is a viscous liquid, but still fairly easy to handle at room temperature. It is readily soluble in all kind of cosmetic oils. Tocopheryl Acetate is relatively stable to air and heat.

Specification

| Test Parameter | Typical Value |
|--|--|
| Chemical formula | $C_{31}H_{52}O_3$ |
| Molecular weight | 472,7 |
| Characters | clear, colorless to greenish-yellow, viscous oily liquid |
| Identification | A: specific optical rotation (-0,01° to +0,01°) B: IR absorption spectrophotometry C: TLC test |
| Acidity | ≤2.0 mg KOH/g |
| Free tocopherol | ≤1.0% |
| Sulphated ashes | ≤0.10% |
| Heavy metal | ≤10 mg/kg |
| Lead | ≤2 mg/kg |
| Arsenic | ≤1 mg/kg |
| Refractive(20°C) | 1.494~1.498 |
| Absorbance | 42.0~45.0max. at about 284nm 7.5~9.0min. at about 254nm |
| Density(20°C) | 0.952~0.966 g/ml |
| Assay (Ph. Eur.: 96,5% to 102,0%) | 98,0% to 102,0% |

Further Information

Related substances

| | |
|--|---------------------|
| impurity A* ¹ | not more than 0,5% |
| impurity B* ² | not more than 1,5% |
| impurity C* ³ | not more than 0,5% |
| impurity D* ⁴ and E* ⁵ | not more than 1,0% |
| any other impurity | not more than 0,25% |
| total impurities | not more than 2,5% |

*1 all-rac-trans-2,3,4,6,7-pentamethyl-2-(4,8,12-trimethyltridecyl)-2,3-dihydrobenzofuran-5-yl acetate

*2 all-rac-cis-2,3,4,6,7-pentamethyl-2-(4,8,12-trimethyltridecyl)-2,3-dihydrobenzofuran-5-yl acetate

*3 all rac-alpha-tocopherol
*4 4-methoxy-2,3,6-trimethyl-5-[(all-RS,E)-3,7,11,15-tetramethylhexadec-2-enyl]phenyl acetate

*5(all-RS,all-E)-2,6,10,14,19,23,27,31-octamethyldotriaconta-12,14,18-triene

Microbiological data

- Total aerobic microbial count: max. 1000cfu/g
- Total yeast and moulds count: max. 100cfu/g

Storage and packaging

- Expiry date: In unopened original packaging and under adequate storage conditions minimum 3 years after production date
- Storage condition: Store in tight container at 1°C to 30°C

REACH

- DL-alpha Tocopheryl Acetate has been registered (reg no: 01-2119457641-38-0002). The final REACH registration considers the uses recommended by COLIPA



CERTIFICATE

Product Information

Product Name: Vitamin E Synthetic

We hereby declare that, to the best of our knowledge, the above mentioned material supplied by us, is derived from synthetic sources does not contain any ingredients animal derived ingredients.

As such, this should be suitable for use by Vegans.

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25.01.21