

1. Identification of the Substance/Mixture and of the Company

1.1 Product Identifier

Product Name:	Rosemary Antioxidant Extract (Supercritical CO ₂)
Item Code:	AF-ANOX1TSF
CAS No.:	84604-14-8
EC No.:	283-291-9
INCI Name:	Rosmarinus Officinalis Leaf Extract
Synonyms:	Rosemary SFE extract, Carnosic acid extract, Natural antioxidant E392

1.2 Relevant Identified Uses and Uses Advised Against

Identified Uses: Natural antioxidant for food products, cosmetic ingredient, pharmaceutical excipient. Used to prevent lipid oxidation in oils, fats, meat products, dairy, bakery products, and natural pigments.

Uses Advised Against: Not for direct consumption. Use only as an ingredient within regulatory limits.

1.3 Details of the Supplier of the Safety Data Sheet

Company:	AltraFlora Natural Botanicals Inc. (Tax ID: 0650832816)
Address:	Zafer Mah., 1033 sokak, No: 16/A, Merkezefendi / Denizli, TURKEY
Phone:	+90 538 051 7405
Email:	info@altraflora.com

1.4 Emergency Telephone Number: +90 538 051 7405 (24h)

2. Hazards Identification

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No 1272/2008 (CLP):

GHS Classification: Not classified as hazardous. This product does not meet the criteria for classification under GHS/CLP Regulation when used as directed.

2.2 Label Elements

Signal Word: None required

Hazard Pictograms: None required

Hazard Statements: None required

Precautionary Statements: General good hygiene practices recommended. Avoid dust formation.

2.3 Other Hazards

PBT/vPvB Assessment: Does not meet criteria for PBT or vPvB under REACH.

Physical Hazards: Powder may create slippery surfaces when spilled. Dust may be irritating to eyes and respiratory system.

3. Composition/Information on Ingredients

3.1 Substance

Revision Date: 13.01.2026 | Version: 1.0

Chemical Name:	Rosemary Leaf Extract (Supercritical CO ₂ Extract)
Botanical Name:	Rosmarinus officinalis L. (syn. Salvia rosmarinus)
Plant Part:	Leaves (dried)
Extraction Method:	Supercritical CO ₂ extraction (SFE)
Origin:	Turkey
Carrier:	None (pure extract, no additives)

Active Components:

Component	CAS No.	Content	Classification (CLP)
Carnosic Acid	3650-09-7	>10%	Not classified
Carnosol	5957-80-2	>3%	Not classified
Volatiles (borneol, bornyl acetate, camphor, 1,8-cineole, verbenone)	Various	<0.5%	Not classified at this concentration

Note: Combined carnosic acid and carnosol content >13%. Total phenolic content >80 mg/g GAE.

4. First Aid Measures

4.1 Description of First Aid Measures

General Advice	Seek medical attention if problems persist. Show this safety data sheet to the doctor.
Inhalation	Remove to fresh air. If symptoms persist, seek medical attention.
Skin Contact	Wash with plenty of soap and water. Get medical advice if irritation develops.
Eye Contact	Rinse immediately with plenty of water for at least 15 minutes, holding eyelids apart. Seek medical attention if irritation persists.
Ingestion	Rinse mouth with water. Drink plenty of water. Seek medical attention if large quantities ingested.

4.2 Most Important Symptoms: Dust may cause mild eye or respiratory irritation in sensitive individuals.

4.3 Medical Attention: Treat symptomatically. No specific antidote required.

5. Firefighting Measures

Suitable Extinguishing Media	Foam, carbon dioxide (CO ₂), dry chemical powder, water spray.
Unsuitable Extinguishing Media	Direct water jet on bulk powder (may spread material).
Special Hazards	Combustible organic material. May form explosive dust-air mixtures in confined spaces. Combustion produces carbon oxides (CO, CO ₂).
Advice for Firefighters	Wear self-contained breathing apparatus and full protective clothing. Avoid creating dust clouds.

6. Accidental Release Measures

Personal Precautions	Wear appropriate protective equipment (gloves, dust mask, eye protection). Avoid dust formation. Ensure adequate ventilation.
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Revision Date: 13.01.2026 | Version: 1.0

Environmental Precautions

Prevent entry into drains or water systems. Natural product, expected to be biodegradable.

Containment Methods

Contain spillage. Avoid creating dust. Collect with suitable vacuum equipment or by gentle sweeping.

Cleaning Methods

Transfer to suitable containers for disposal. Clean area thoroughly. Dispose according to local regulations.

7. Handling and Storage

7.1 Precautions for Safe Handling

Avoid dust formation and accumulation. Use only with adequate ventilation. Wear protective gloves and eye protection. Wash hands thoroughly after handling. Keep away from sources of ignition. Follow good manufacturing practices for food ingredients.

7.2 Conditions for Safe Storage

Storage Temperature

Store in a cool, dry place (15-25°C). Protect from heat and direct sunlight.

Storage Conditions

Keep container tightly closed. Store in a well-ventilated area. Protect from moisture and light.

Packaging Materials

Food-grade containers, aluminum-lined bags, HDPE bottles.

Shelf Life

24 months from date of manufacture when stored properly.

8. Exposure Controls/Personal Protection

8.1 Control Parameters: No occupational exposure limits established. Minimize dust exposure.

8.2 Exposure Controls

Engineering Controls

Use with adequate ventilation. Local exhaust ventilation recommended for bulk handling. Avoid dust accumulation.

Respiratory Protection

Use dust mask (N95 or equivalent) when handling bulk quantities or if dust is generated.

Hand Protection

Wear protective gloves (nitrile or latex) when handling.

Eye Protection

Safety glasses with side shields. Use dust-proof goggles if dust generation is likely.

Skin Protection

Lab coat or protective clothing. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance	Dark-brown, viscous solution
Odor	Absent to faint characteristic
pH	Not applicable (powder)
Melting Point	Not determined (complex mixture)
Flash Point	>100°C
Flammability	Combustible powder
Explosive Properties	Dust may form explosive mixture with air
Density	~0.4-0.6 g/cm ³ (bulk)

Revision Date: 13.01.2026 | Version: 1.0

Solubility (Water)	Insoluble
Solubility (Oil)	Soluble
Solubility (Ethanol)	Soluble
Loss on Drying	<5%
Carnosic Acid + Carnosol	>13%
Total Phenolic Content	>80 mg/g GAE
Volatiles	<0.5%

10. Stability and Reactivity

Reactivity	Stable under normal conditions. Antioxidant properties may decrease upon exposure to heat, light, and oxygen.
Chemical Stability	Stable when stored properly. Avoid prolonged exposure to air, light, and high temperatures.
Hazardous Reactions	No hazardous reactions known under normal conditions.
Conditions to Avoid	Heat, direct sunlight, moisture, dust accumulation, ignition sources.
Incompatible Materials	Strong oxidizers, strong acids, strong bases.
Hazardous Decomposition	Carbon oxides (CO, CO ₂) upon thermal decomposition.

11. Toxicological Information

11.1 Information on Toxicological Effects

Acute Oral Toxicity	Not classified. Low toxicity expected based on composition. LD50 (rat): >5000 mg/kg (estimated).
Acute Dermal Toxicity	Not classified. Not expected to be toxic by dermal route.
Acute Inhalation Toxicity	Not classified. Dust may cause mild respiratory irritation.
Skin Irritation	Not classified. May cause mild irritation with prolonged contact.
Eye Irritation	Not classified. Dust may cause mechanical irritation.
Sensitization	Not classified as a sensitizer.
Mutagenicity	Not classified. No mutagenic potential expected.
Carcinogenicity	Not classified. Not listed by IARC. Carnosic acid shows anticarcinogenic properties in studies.
Reproductive Toxicity	Not classified.
STOT	Not classified.

12. Ecological Information

Toxicity	Not classified as hazardous to aquatic environment. Natural plant extract.
Persistence/Degradability	Expected to be readily biodegradable.
Bioaccumulative Potential	Not expected to bioaccumulate.
Mobility in Soil	Low water solubility limits mobility.

Revision Date: 13.01.2026 | Version: 1.0

PBT/vPvB Assessment

Does not meet criteria for PBT or vPvB.

Other Adverse Effects

No known adverse environmental effects.

13. Disposal Considerations

Product Disposal

Dispose of in accordance with local, regional, and national regulations. May be disposed with organic waste if permitted locally.

Contaminated Packaging

Empty containers may be recycled or disposed at licensed facility.

Waste Code (EU)

EWC: 02 03 99 (Wastes from food preparation - not otherwise specified)

14. Transport Information

This product is not classified as dangerous goods for transport.

UN Number	Not regulated
UN Proper Shipping Name	Not regulated
Transport Hazard Class	Not regulated
Packing Group	Not regulated
Environmental Hazards	Marine pollutant: No
Special Precautions	Protect from moisture, heat, and direct sunlight during transport.
ADR/RID / IMDG / IATA	Not regulated

15. Regulatory Information

15.1 Safety, Health, and Environmental Regulations

EU Regulations:

- Regulation (EC) No. 1333/2008 - Approved food additive E392 (Extracts of rosemary)
- Regulation (EU) No. 231/2012 - Specifications for food additives
- Regulation (EC) No. 1223/2009 - Permitted cosmetic ingredient
- Regulation (EC) No. 1907/2006 (REACH) - Exempt as natural complex substance

US Regulations:

- FDA: Generally Recognized as Safe (GRAS) for food use
- FEMA GRAS Number: 2992

International:

- JECFA: ADI not specified (evaluated 2015)
- Codex Alimentarius: Listed in GSFA

16. Other Information

Product Specifications

Revision Date: 13.01.2026 | Version: 1.0

Botanical Source	Rosmarinus officinalis L. (Rosemary)
Plant Part Used	Leaves (dried)
Extraction Method	Supercritical CO ₂ extraction
Country of Origin	Turkey
Carnosic Acid + Carnosol	>13% (HPLC)
Volatiles	<0.5% (GC-MS)
Total Phenolic Content	>80 mg/g GAE
DPPH IC50	<50 ppm
Loss on Drying	<5%
Shelf Life	24 months
Storage	Cool, dry place, protected from light
Dosage	0.05-0.5% by weight depending on application

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Abbreviations: CAS: Chemical Abstracts Service | GHS: Globally Harmonized System | CLP: Classification, Labelling and Packaging | REACH: Registration, Evaluation, Authorization and Restriction of Chemicals | SFE: Supercritical Fluid Extraction | GAE: Gallic Acid Equivalent | DPPH: 2,2-diphenyl-1-picrylhydrazyl | JECFA: Joint FAO/WHO Expert Committee on Food Additives | ADI: Acceptable Daily Intake | GRAS: Generally Recognized as Safe | FEMA: Flavor and Extract Manufacturers Association

Disclaimer: The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of publication. It is intended as guidance for safe handling, use, processing, storage, transport, and disposal and should not be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with other materials or in any process.

End of Safety Data Sheet