

SAFETY DATA SHEET

Z/E-Desmethoxycurcumin

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

| | |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | Z/E-Desmethoxycurcumin |
| Product number | FD20982 |
| Synonyms; trade names | (E,E)-1-(4-Hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-1,6-heptadiene-3,5-dione, 1-(4-Hydroxy-3-methoxyphenyl)-7-(p-hydroxyphenyl)-1,6-heptadiene-3,5-dione, (1E,6E)-1-(4-Hydroxyphenyl)-7-(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5-dione |
| CAS number | 22608-11-3 |

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

| | |
|------------------------|--------------------------------------------------------------------------|
| Identified uses | Laboratory reagent. Manufacture of substances. Research and development. |
|------------------------|--------------------------------------------------------------------------|

1.3. Details of the supplier of the safety data sheet

| | |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supplier | Carbosynth Ltd 8&9 Old Station Business Park Compton Berkshire RG20 6NE UK +44 1635 578444 +44 1635 579444 info@carbosynth.com |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|

1.4. Emergency telephone number

| | |
|----------------------------|-----------------|
| Emergency telephone | +44 7887 998634 |
|----------------------------|-----------------|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

| | |
|------------------------------|-------------------------------------------------|
| Physical hazards | Not Classified |
| Health hazards | Not Classified |
| Environmental hazards | Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410 |

2.2. Label elements

Pictogram



| | |
|--------------------------|------------------------------------------------------------|
| Signal word | Warning |
| Hazard statements | H410 Very toxic to aquatic life with long lasting effects. |

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Precautionary statements P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name Z/E-Desmethoxycurcumin
CAS number 22608-11-3
Chemical formula C₂₀H₁₈O₅

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Get medical advice/attention if you feel unwell.

Inhalation Remove person to fresh air and keep comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if symptoms are severe or persist.

Ingestion Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.

Skin contact Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.

Eye contact Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

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

General information See Section 11 for additional information on health hazards.

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

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid generation and spreading of dust. Avoid contact with skin and eyes. Avoid inhalation of dust and vapours.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Store in a cool and well-ventilated place. Store at temperatures not exceeding -20°C.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits known for ingredient(s).

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection Wear appropriate clothing to prevent repeated or prolonged skin contact.

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|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Respiratory protection | Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Particulate filter, type P1. Particulate filters should comply with European Standard EN143. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140. |
| Environmental exposure controls | Keep container tightly sealed when not in use. |

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

| | |
|-----------------------------------------------------|-------------------------------------------------------------|
| Appearance | Solid. |
| Colour | Yellow. to Orange. |
| Odour | No data available. |
| Odour threshold | No data available. |
| pH | No data available. |
| Melting point | 178 to 180°C |
| Initial boiling point and range | No data available. |
| Flash point | No data available. |
| Evaporation rate | No data available. |
| Flammability (solid, gas) | No data available. |
| Upper/lower flammability or explosive limits | No data available. |
| Vapour pressure | No data available. |
| Vapour density | No data available. |
| Relative density | No data available. |
| Solubility(ies) | Almost insoluble in the following materials: Methanol. DMSO |
| Partition coefficient | log Pow: 2.792 |
| Auto-ignition temperature | No data available. |
| Decomposition Temperature | No data available. |
| Viscosity | No data available. |
| Explosive properties | No data available. |
| Oxidising properties | No data available. |

9.2. Other information

| | |
|-------------------------|--------|
| Molecular weight | 338.35 |
|-------------------------|--------|

SECTION 10: Stability and reactivity

10.1. Reactivity

| | |
|-------------------|--------------------|
| Reactivity | No data available. |
|-------------------|--------------------|

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10.2. Chemical stability

Stability Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No data available.

10.4. Conditions to avoid

Conditions to avoid No data available.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

General information

Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

Dust may irritate the respiratory system. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Ingestion

No specific symptoms known.

Skin contact

Prolonged contact may cause dryness of the skin.

Eye contact

Dust may cause slight irritation.

Route of exposure

Ingestion Inhalation Skin and/or eye contact

Target organs

No specific target organs known.

SECTION 12: Ecological Information

Ecotoxicity

Very toxic to aquatic life.

12.1. Toxicity

Toxicity

Based on available data the classification criteria are not met.

Acute aquatic toxicity

LE(C)₅₀

$0.1 < L(E)C_{50} \leq 1$

M factor (Acute)

1

Chronic aquatic toxicity

M factor (Chronic)

1

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

log Pow: 2.792

12.4. Mobility in soil

Mobility

No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Other adverse effects

Very toxic to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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General information

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

| | |
|------------------|------|
| UN No. (ADR/RID) | 3077 |
| UN No. (IMDG) | 3077 |
| UN No. (ICAO) | 3077 |
| UN No. (ADN) | 3077 |

14.2. UN proper shipping name

14.3. Transport hazard class(es)

| | |
|-----------------------------|----|
| ADR/RID class | 9 |
| ADR/RID classification code | M7 |
| ADR/RID label | 9 |
| IMDG class | 9 |
| ICAO class/division | 9 |
| ADN class | 9 |

Transport labels



14.4. Packing group

| | |
|-----------------------|-----|
| ADR/RID packing group | III |
| IMDG packing group | III |
| ADN packing group | III |
| ICAO packing group | III |

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

| | |
|----------------------------------------|----------|
| EmS | F-A, S-F |
| ADR transport category | 3 |
| Emergency Action Code | 2Z |
| Hazard Identification Number (ADR/RID) | 90 |

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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SECTION 15: Regulatory information

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

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|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National regulations | Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits. |
| EU legislation | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). |

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Abbreviations and acronyms used in the safety data sheet | ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC ₅₀ : Lethal Concentration to 50 % of a test population. LD ₅₀ : Lethal Dose to 50% of a test population (Median Lethal Dose). EC ₅₀ : 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative. |
| Training advice | Only trained personnel should use this material. |
| Revision date | 14/12/2018 |
| Revision | 1 |
| SDS number | 144926 |
| Hazard statements in full | H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.