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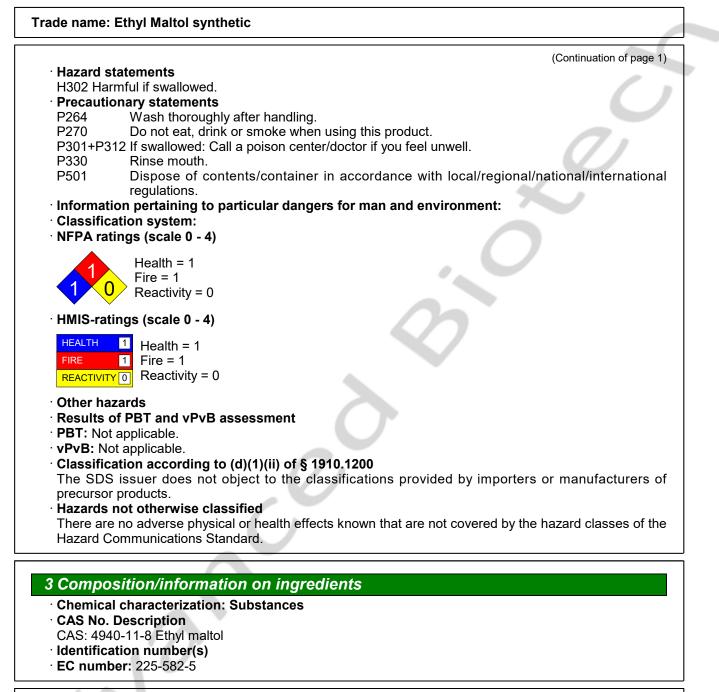
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4 First-aid measures

- · Description of first aid measures
- General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: Immediately call a doctor.

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- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- · Extinguishing media
- Suitable extinguishing agents:
- CO2, powder or alcoholresistant foam.
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- · Protective equipment: No special measures required.
- Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.

- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Dispose contaminated material as waste according to section 13.

· Protective Action Criteria for Chemicals

· PAC-1:

Substance is not listed.

· PAC-2:

Substance is not listed.

· PAC-3:

Substance is not listed.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · Precautions for safe handling No special precautions are necessary if used correctly.
- Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles:
- Please refer to the product specification and/or Certificate of Analysis for product storage requirements. Information about storage in one common storage facility: Not required.
- Further information about storage conditions: None.

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• **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- · Control parameters
- · Components with limit values that require monitoring at the workplace: Not required.
- · Additional information: The lists that were valid during the creation were used as a basis.
- Exposure controls
- Appropriate engineering controls No further data; see section 7.
- · Personal protective equipment:
- · General protective and hygienic measures:
- Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

- Breathing equipment: Not required.
- Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material should be based on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be determined by the manufacturer of the protective gloves and has to be observed.

• Eye protection: Not required.

Information on basic physical and ch	emical properties	
General Information		
Physical state	Solid	
Color:	According to product specification	
Odor:	According to product specification	
Odor threshold:	Not determined.	
Melting point/Melting range:	89-92 °C (192.2-197.6 °F)	
Boiling point/Boiling range:	Undetermined.	
Flammability:	Product is not flammable.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Flash point:	Not applicable.	
Decomposition temperature:	Not determined.	
pH-value:	Not applicable.	
Viscosity:		
Kinematic:	Not applicable.	
Dynamic:	Not applicable.	



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olubility in / Miscibility with	
Vater:	Insoluble.
Partition coefficient (n-octanol/water):	Not determined.
apor pressure:	Not applicable.
apor pressure:	
Density:	Not determined.
Relative density	Not determined.
Refractive Index	
/apor density	Not applicable.
Particle characteristics	Not determined.
Other information	
ppearance:	
orm:	Solid
mportant information on protection of he	alth
nd environment, and on safety.	
gnition temperature:	Not determined.
anger of explosion:	Product does not present an explosion hazard.
OC content:	0.00 %
olids content:	100.0 %
change in condition	
vaporation rate	Not applicable.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided:
- No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Oral LD50 1,200 mg/kg (ATE)

CAS: 4940-11-8 Ethyl maltol

Oral LD50 1,200 mg/kg (ATE)

- Primary irritant effect:
- on the skin: No irritant effect.
- · on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.

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- Additional toxicological information:
- · Interactive effects No interactive effects between components are known.
- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

· Alternative sources for toxicological information

No non-standard sources for toxicological information where used.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.
- Other adverse effects
- · Additional ecological information:
- · General notes:
- Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.

UN-Number		
DOT, IMDG, IATA	Not Regulated	
UN proper shipping name		
DOT, IMDG, IATA	Not Regulated	



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· Transport hazard class(es)		
· DOT, ADN, IMDG, IATA		
Class	Not Regulated	
Packing group		
DOT, IMDG, IATA	Not Regulated	
Environmental hazards:	Not applicable.	
Transport in bulk according to Annex	ll of	
MARPOL73/78 and the IBC Code	Not applicable.	
Transport/Additional information:	Not dangerous according to the above specificat	ions.
Special precautions for user	Not applicable.	
UN "Model Regulation":	Not Regulated	

15 Regulatory information

 $^{\cdot}$ Safety, health and environmental regulations/legislation specific for the substance or mixture $^{\cdot}$ Sara

 Section 355 (extremely hazardous substances): 	
Substance is not listed.	
· Section 313 (Specific toxic chemical listings):	
Substance is not listed.	
· TSCA (Toxic Substances Control Act):	
ACTIVE	
· Hazardous Air Pollutants	
Substance is not listed.	
· Proposition 65	
· Chemicals known to cause cancer:	
Substance is not listed.	
• Chemicals known to cause reproductive toxicity for females:	
Substance is not listed.	
· Chemicals known to cause reproductive toxicity for males:	
Substance is not listed.	
· Chemicals known to cause developmental toxicity:	
Substance is not listed.	
· Carcinogenic categories	
· EPA (Environmental Protection Agency)	
Substance is not listed.	
· TLV (Threshold Limit Value)	
Substance is not listed.	
· NIOSH-Ca (National Institute for Occupational Safety and Health)	
Substance is not listed.	
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(Continuation of page 7) · GHS label elements Pictograms on label shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible. The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms GHS07 Signal word Warning · Hazard-determining components of labeling: Ethyl maltol · Hazard statements H302 Harmful if swallowed. Precautionary statements P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+P312 If swallowed: Call a poison center/doctor if you feel unwell. P330 Rinse mouth. Dispose of contents/container in accordance with local/regional/national/international P501 regulations. · Chemical safety assessment: A Chemical Safety Assessment has not been carried out. 16 Other information This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. · Department issuing SDS: Product Safety Department · Contact: Product Safety Department productsafety@adv-bio.com Date of previous version 11/08/2023 Date of preparation 01/24/2025 Abbreviations and acronyms: ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit Acute toxicity - oral 4: Acute toxicity – Category 4