

Safety Data Sheet

acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

1 Identification

- **Product identifier**
- **Trade name:** Ethyl Levulinate natural
- **CAS Number:**
539-88-8
- **Other means of identification**
- **Product number:** 1048
- **EC number:**
208-728-2
- **Application of the substance / the mixture** Flavoring Ingredients

· **Details of the supplier of the safety data sheet**
DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. Advanced Biotech makes NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the Advanced Biotech product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of an Advanced Biotech product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the Advanced Biotech product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

- **Manufacturer/Supplier:**
Advanced Biotech
10 Taft Road
Totowa, NJ 07512 USA
- **Information department:**
Product Safety Department
productsafety@adv-bio.com
- **Emergency telephone number:**
Infotrac: 1-800-535-5053 (Domestic) & 1-352-323-3500 (International)
Email: responders@infotrac.net & During normal business hours: 1-973-339-6242

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Skin irritation 2 H315 Causes skin irritation.

Flammable liquids 4 H227 Combustible liquid.

- **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

(Continued on page 2)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 1)

· **Hazard statements**

H227 Combustible liquid.
 H315 Causes skin irritation.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P403 Store in a well-ventilated place.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Information pertaining to particular dangers for man and environment:**

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1
 Fire = 2
 Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1
 FIRE 2 Fire = 2
 REACTIVITY 0 Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
 · **vPvB:** Not applicable.

· **Classification according to (d)(1)(ii) of § 1910.1200**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
 CAS: 539-88-8 Ethyl levulinate
- **Identification number(s)**
- **EC number:** 208-728-2

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.

(Continued on page 3)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 2)

- **After swallowing:** If symptoms persist consult doctor.
- **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, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **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:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 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.

(Continued on page 4)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 3)

- **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:**
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

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:** Goggles recommended during refilling.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information** Molecular Weight: 144.17 g/mol
- **Physical state** Liquid
- **Color:** According to product specification
- **Odor:** According to product specification
- **Odor threshold:** Not determined.
- **Melting point/Melting range:** Undetermined.
- **Boiling point/Boiling range:** 203-205 °C (397.4-401 °F)
- **Flammability:** Not applicable.
- **Explosion limits:**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** 90 °C (194 °F)
- **Decomposition temperature:** Not determined.
- **pH-value:** Not determined.

(Continued on page 5)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 4)

- **Viscosity:**
- **Kinematic:** Not determined.
- **Dynamic:** Not determined.
- **Solubility in / Miscibility with**
- **Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Vapor pressure:** Not determined.
- **Vapor pressure:**
- **Density at 20 °C (68 °F):** 1.015 g/cm³ (8.47017 lbs/gal)
- **Relative density** Not determined.
- **Refractive Index**
- **Vapor density** Not determined.
- **Particle characteristics** Not applicable.

- **Other information**
- **Appearance:**
- **Form:** Liquid
- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Not determined.
- **Danger of explosion:** Not determined.
- **VOC content:** 0.00 %
0.0 g/l / 0.00 lb/gal
- **Change in condition**
- **Evaporation rate** Not determined.

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:**

CAS: 539-88-8 Ethyl levulinate

Oral	LD50	>5,000 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

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

(Continued on page 6)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 5)

- **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 2 (Assessment by list): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.

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.

14 Transport information

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

(Continued on page 7)

Safety Data Sheet
 acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 6)

· Transport hazard class(es)	
· DOT, ADN, IMDG, IATA	
· Class	Not Regulated
· Packing group	
· DOT, IMDG, IATA	Not Regulated
· Environmental hazards:	
· Marine pollutant:	No
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· Special precautions for user	Not applicable.
· UN "Model Regulation":	Not Regulated

15 Regulatory information

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

(Continued on page 8)

Safety Data Sheet
acc. to OSHA HCS (29 CFR § 1910.1200)

Date of issue: 01/24/2025

Reviewed on 01/08/2025

Trade name: Ethyl Levulinate natural

(Continuation of page 7)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

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· **GHS label elements**

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The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

H227 Combustible liquid.

H315 Causes skin irritation.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P403 Store in a well-ventilated place.

P501 Dispose of contents/container in accordance with local/regional/national/international 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** 01/10/2023

· **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

(Continued on page 9)

Safety Data Sheet
acc. to OSHA HCS (29 CFR § 1910.1200)

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Trade name: Ethyl Levulinate natural

(Continuation of page 8)

OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable liquids 4: Flammable liquids – Category 4
Skin irritation 2: Skin corrosion/irritation – Category 2

US

Advanced Biotech