

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2019

Reviewed on 03/31/2018

## 1 Identification

- **Product identifier**
- **Trade name: Acetaldehyde 50% in Benzyl benzoate synthetic**
- **Product number:** 2073
- **CAS Number:** 75-07-0 / 120-51-4
- **EINECS Number:** 200-836-8
- **Application of the substance / the mixture** Food flavorings
- **Details of the supplier of the safety data sheet**  
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- **Manufacturer/Supplier:**  
 Advanced Biotech  
 10 Taft Road  
 Totowa, NJ 07512 USA
- **Information department:**  
 Product Safety Department  
 productsafety@adv-bio.com
- **Emergency telephone number:**  
 1(800)535-5053 (Info Trac)  
 1(352)323-3500 (International)  
 During normal business hours: 1(973)339-6242

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 1 H224 Extremely flammable liquid and vapor.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements** Harmful in contact with skin or if inhaled.

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· **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 product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Benzyl benzoate  
acetaldehyde

· **Hazard statements**

H224 Extremely flammable liquid and vapor.  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.  
H351 Suspected of causing cancer.  
H335 May cause respiratory irritation.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 4  
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2  
FIRE 4 Fire = 4  
REACTIVITY 0 Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Description:** Mixture of the substances listed below with nonhazardous additions.

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· <b>Dangerous components:</b>		
CAS: 75-07-0	acetaldehyde  Flam. Liq. 1, H224;  Carc. 2, H351;  Acute Tox. 4, H302; Eye Irrit. 2A, H319; STOT SE 3, H335	50.0%
CAS: 120-51-4	Benzyl benzoate  Acute Tox. 4, H302	50.0%

## 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
 Immediately remove any clothing soiled by the product.  
 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:** Immediately rinse with water.
- **After eye contact:**  
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for 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:**  
 CO<sub>2</sub>, 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**  
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
 Dilute with plenty of water.  
 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 item 13.  
 Ensure adequate ventilation.
- **Reference to other sections**  
 See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· <b>PAC-1:</b>		
CAS: 75-07-0	acetaldehyde	45 ppm
CAS: 120-51-4	Benzyl benzoate	5.7 mg/m <sup>3</sup>
· <b>PAC-2:</b>		
CAS: 75-07-0	acetaldehyde	270 ppm
CAS: 120-51-4	Benzyl benzoate	63 mg/m <sup>3</sup>
· <b>PAC-3:</b>		
CAS: 75-07-0	acetaldehyde	840 ppm
CAS: 120-51-4	Benzyl benzoate	380 mg/m <sup>3</sup>

**7 Handling and storage**

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Do not gas tight seal receptacle.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

**8 Exposure controls/personal protection**

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

<b>CAS: 75-07-0 acetaldehyde</b>	
PEL	Long-term value: 360 mg/m <sup>3</sup> , 200 ppm
REL	See Pocket Guide Apps. A and C

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TLV	Ceiling limit value: 45 mg/m <sup>3</sup> , 25 ppm
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- **Additional information:** The lists that were valid during the creation were used as a basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **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:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	According to product specification
<b>Odor:</b>	According to product specification
<b>Odor threshold:</b>	Not determined.
- **pH-value:** Not determined.

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· <b>Change in condition</b> <b>Melting point/Melting range:</b> <b>Boiling point/Boiling range:</b>	Undetermined. 21 °C (69.8 °F)
· <b>Flash point:</b>	5 °C (41 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	140 °C (284 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b> <b>Lower:</b> <b>Upper:</b>	4 Vol % 57 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	1 hPa (0.8 mm Hg)
· <b>Density at 20 °C (68 °F):</b> · <b>Relative density</b> · <b>Vapor density</b> · <b>Evaporation rate</b>	0.928 g/cm <sup>3</sup> (7.74416 lbs/gal) Not determined. Not determined. Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b> <b>Dynamic:</b> <b>Kinematic:</b>	Not determined. Not determined.
· <b>Solvent content:</b> <b>VOC content:</b>	0.00 % 0.0 g/l / 0.00 lb/gal
· <b>Other information</b>	No further relevant information available.

**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.

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**11 Toxicological information**

- Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

**ATE (Acute Toxicity Estimate)**

Oral	LD50	952 mg/kg (rat)
Dermal	LD50	8,000 mg/kg (rabbit)
Inhalative	LC50/4 h	74 mg/l (rat)

**CAS: 75-07-0 acetaldehyde**

Oral	LD50	661 mg/kg (rat)
Inhalative	LC50/4 h	37 mg/l (rat)

**CAS: 120-51-4 Benzyl benzoate**

Oral	LD50	1,700 mg/kg (rat)
Dermal	LD50	4,000 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 75-07-0	acetaldehyde	2B
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· **NTP (National Toxicology Program)**

CAS: 75-07-0	acetaldehyde	R
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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.
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**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): 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.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 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.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                                     |   |
|-------------------------------------|---|
| · <b>UN-Number</b>                  |   |
| · <b>DOT, ADR, IMDG, IATA</b>       | UN1089  |
| · <b>UN proper shipping name</b>    |   |
| · <b>DOT</b>                        | Acetaldehyde mixture  |
| · <b>ADR</b>                        | 1089 ACETALDEHYDE mixture, ENVIRONMENTALLY HAZARDOUS  |
| · <b>IMDG</b>                       | ACETALDEHYDE mixture, MARINE POLLUTANT  |
| · <b>IATA</b>                       | ACETALDEHYDE mixture  |
| · <b>Transport hazard class(es)</b> |   |
| · <b>DOT, IMDG</b>                  |   |
|                                     |   |
| · <b>Class</b>                      | 3 Flammable liquids   |
| · <b>Label</b>                      | 3   |
| · <b>ADR</b>                        |   |
|                                     |   |
| · <b>Class</b>                      | 3 (F1) Flammable liquids  |
| · <b>Label</b>                      | 3   |

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· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	I
· Environmental hazards:	Product contains environmentally hazardous substances: Benzyl benzoate
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Stowage Category	E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: Forbidden On cargo aircraft only: 30 L
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Excepted quantities (EQ)	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E3 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 300 ml
· UN "Model Regulation":	UN 1089 ACETALDEHYDE MIXTURE, 3, I, ENVIRONMENTALLY HAZARDOUS

**15 Regulatory information**

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

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

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· **Section 313 (Specific toxic chemical listings):**

CAS: 75-07-0 | acetaldehyde

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

CAS: 75-07-0 | acetaldehyde

WARNING! This product contains chemicals known to the state of California to cause cancer:  
Acetaldehyde

Acetaldehyde CAS-no. 75-07-0 (50% by weight)

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

CAS: 75-07-0 | acetaldehyde

B2

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 75-07-0 | acetaldehyde

A3

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

CAS: 75-07-0 | acetaldehyde

· **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 product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Benzyl benzoate  
acetaldehyde

· **Hazard statements**

H224 Extremely flammable liquid and vapor.  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.  
H351 Suspected of causing cancer.  
H335 May cause respiratory irritation.

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· **Precautionary statements**

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.
- 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.

· **Relevant phrases**

- H224 Extremely flammable liquid and vapor.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.

· **Department issuing SDS:** Product Safety Department

· **Contact:**

Product Safety Department  
productsafety@adv-bio.com

· **Date of preparation / last revision** 02/11/2019 / -

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport 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
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified 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
- Flam. Liq. 1: Flammable liquids – Category 1
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Carc. 2: Carcinogenicity – Category 2
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3