



synerzine™

SAFETY DATA SHEET

ACETOIN

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	ACETOIN
Chemical name	3-hydroxy-2-butanone
Product number	W01306
Synonyms; trade names	3-hydroxybutan-2-one, acetyl methyl carbinol
CAS number	513-86-0
EC number	208-174-1

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

Uses advised against	No specific uses advised against are identified.
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1.3. Details of the supplier of the safety data sheet

Supplier	Synerzine 5340 Highway 42 Ellenwood, GA 30294 United States +1 404-524-6744 info@synerzine.com
Contact person	James Elliott
Manufacturer	Synerzine 5340 Highway 42 Ellenwood, GA 30294 United States +1 404-524-6744 info@synerzine.com

1.4. Emergency telephone number

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	Not Classified

2.2. Label elements

EC number	208-174-1
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Hazard pictograms



ACETOIN

Signal word	<i>Danger</i>
Hazard statements	<i>H226 Flammable liquid and vapour.</i> <i>H315+H320 Causes skin and eye irritation.</i> <i>H318 Causes serious eye damage.</i> <i>H319 Causes serious eye irritation.</i>
Precautionary statements	<i>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</i> <i>P233 Keep container tightly closed.</i> <i>P240 Ground and bond container and receiving equipment.</i> <i>P241 Use explosion-proof electrical/ ventilating /lighting/.../ equipment.</i> <i>P242 Use non-sparking tools.</i> <i>P243 Take action to prevent static discharges.</i> <i>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</i> <i>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</i> <i>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</i> <i>P310 Immediately call a POISON CENTER/ doctor.</i> <i>P370+P378 In case of fire: Use dry powder, dry sand or dry earth to extinguish.</i> <i>P403+P235 Store in a well-ventilated place. Keep cool.</i> <i>P501 Dispose of contents/ container in accordance with local regulations.</i> <i>P501 Dispose of contents/ container in accordance with regional regulations.</i> <i>P501 Dispose of contents/ container in accordance with national regulations.</i> <i>P501 Dispose of contents/ container in accordance with international regulations.</i>

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	ACETOIN
Chemical name	3-hydroxy-2-butanone
CAS number	513-86-0
EC number	208-174-1
Chemical formula	C ₄ H ₈ O ₂

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	<i>Show this Safety Data Sheet to the medical personnel.</i>
Inhalation	<i>Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.</i> <i>Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.</i>
Ingestion	<i>Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel. Give a few small glasses of water or milk to drink.</i>
Skin contact	<i>After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.</i>
Eye contact	<i>Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.</i>
Protection of first aiders	<i>First aid personnel should wear appropriate protective equipment during any rescue.</i>

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

General information	<i>The severity of the symptoms described will vary dependent on the concentration and the length of exposure. See Section 11 for additional information on health hazards.</i>
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Inhalation	<i>A single exposure may cause the following adverse effects: Temporary irritation.</i>
Ingestion	<i>May cause discomfort if swallowed.</i>
Skin contact	<i>May cause discomfort.</i>
Eye contact	<i>May be slightly irritating to eyes.</i>

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

Notes for the doctor	<i>Treat symptomatically.</i>
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	<i>Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.</i>
Unsuitable extinguishing media	<i>Do not use water jet as an extinguisher, as this will spread the fire.</i>

5.2. Special hazards arising from the substance or mixture

Specific hazards	<i>Containers can burst violently or explode when heated, due to excessive pressure build-up.</i>
Hazardous combustion products	<i>Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.</i>

5.3. Advice for firefighters

Protective actions during firefighting	<i>Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.</i>
Special protective equipment for firefighters	<i>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.</i>

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	<i>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.</i>
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6.2. Environmental precautions

Environmental precautions	<i>Avoid discharge into drains or watercourses or onto the ground.</i>
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	<i>Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.</i>
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6.4. Reference to other sections

Reference to other sections	<i>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.</i>
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions	<i>Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists.</i>
Advice on general occupational hygiene	<i>Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.</i>
7.2. Conditions for safe storage, including any incompatibilities	
Storage precautions	<i>Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.</i>
Storage class	<i>Chemical storage.</i>
7.3. Specific end use(s)	
Specific end use(s)	<i>The identified uses for this product are detailed in Section 1.2.</i>

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

8.2. Exposure controls

Protective equipment



Appropriate engineering controls	<i>Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.</i>
Eye/face protection	<i>Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.</i>
Hand protection	<i>No specific hand protection recommended.</i>
Other skin and body protection	<i>Wear appropriate clothing to prevent repeated or prolonged skin contact.</i>
Hygiene measures	<i>Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.</i>
Respiratory protection	<i>Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. 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.</i>
Environmental exposure controls	<i>Keep container tightly sealed when not in use.</i>

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	<i>Solid or liquid (may vary).</i>
Colour	<i>Colorless to Pale Yellow</i>
Odour	<i>Sweet Buttery Creamy Dairy</i>
Melting point	<i>15°C/59°F</i>
Initial boiling point and range	<i>148°C/298°F</i>
Flash point	<i>48°C/118°F 1013 hPa, Closed cup.</i>
Upper/lower flammability or explosive limits	<i>Upper flammable/explosive limit: 12.2% g/m³ Lower flammable/explosive limit: 1% g/m³</i>
Vapour pressure	<i>8.6 hPa @ 20°C/68°F</i>

ACETOIN

Relative density 1.013 g/cm³ @ 25°C/77°F

Solubility(ies) Soluble in water.

Partition coefficient Pow: ca.0.1 at 25 C (77 F)

Auto-ignition temperature 367°C/693°F

9.2. Other information

Molecular weight 88.106

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity See the other subsections of this section for further details.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

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

Acute toxicity - dermal

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

Acute toxicity - inhalation

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

Skin corrosion/irritation

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

Serious eye damage/irritation

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

Respiratory sensitisation

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

Skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

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IARC carcinogenicity	<i>None of the ingredients are listed or exempt.</i>
Reproductive toxicity	
Summary	<i>Based on available data the classification criteria are not met.</i>
Specific target organ toxicity - single exposure	
Summary	<i>Based on available data the classification criteria are not met.</i>
Specific target organ toxicity - repeated exposure	
Summary	<i>Based on available data the classification criteria are not met.</i>
Aspiration hazard	
Summary	<i>Based on available data the classification criteria are not met.</i>
General information	<i>The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</i>
Inhalation	<i>A single exposure may cause the following adverse effects: Temporary irritation.</i>
Ingestion	<i>May cause discomfort if swallowed.</i>
Skin contact	<i>May cause discomfort.</i>
Eye contact	<i>May be slightly irritating to eyes.</i>
Route of exposure	<i>Ingestion Inhalation Skin and/or eye contact</i>
Target organs	<i>No specific target organs known.</i>

SECTION 12: Ecological information

Ecotoxicity	<i>Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.</i>
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12.1. Toxicity

Acute aquatic toxicity	
Summary	<i>Based on available data the classification criteria are not met.</i>
Acute toxicity - fish	<i>LC₅₀, 96 hours: 2200 mg/l, Leuciscus idus (Golden orfe) LC₅₀, 48 hours: 2200 mg/l, Leuciscus idus (Golden orfe)</i>

Chronic aquatic toxicity	
Summary	<i>Based on available data the classification criteria are not met.</i>

12.2. Persistence and degradability

Biodegradation	<i>Air - Degradation 76%: 28 days</i>
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12.3. Bioaccumulative potential

Bioaccumulative potential	<i>No data available on bioaccumulation.</i>
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Partition coefficient	<i>Pow: ca.0.1 at 25 C (77 F)</i>
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12.4. Mobility in soil

Mobility	<i>No data available.</i>
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12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects	<i>None known.</i>
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

ACETOIN

General information *The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. 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. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.*

Disposal methods *Do not empty into drains.*

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	2621
UN No. (IMDG)	2621
UN No. (ICAO)	2621
UN No. (ADN)	2621

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ACETYL METHYL CARBINOL
Proper shipping name (IMDG)	ACETYL METHYL CARBINOL
Proper shipping name (ICAO)	ACETYL METHYL CARBINOL
Proper shipping name (ADN)	ACETYL METHYL CARBINOL

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

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

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	3
Emergency Action Code	•2Y

ACETOIN

Hazard Identification Number 30
(ADR/RID)

Tunnel restriction code (D/E)

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

SECTION 15: Regulatory information

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

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.

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

SECTION 16: Other information

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.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 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 *06/12/2022*

SDS number *1418*

Hazard statements in full *H226 Flammable liquid and vapour.*
H315+H320 Causes skin and eye irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

End of Safety Data Sheet

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.