

Safety Data Sheet

Issue Date: 28-Sep-2023

Revision Date: 28-Sep-2023

Version 1

1. IDENTIFICATION

Product identifier

Product Name ALPHA ACETOLACTATE DECARBOXYLASE

Other means of identification

SDS # CELL-002

Recommended use of the chemical and restrictions on use

Recommended Use Beverage Processing Aids and Other Usages.

Details of the supplier of the safety data sheet

Supplier Address

CellarScience
701 Willow Pass Rd. Suite 1
Pittsburg, CA 94519
Email: info@cellarscience.com
Web: www.cellarscience.com
1-925-222-5014

Emergency telephone number

Emergency Telephone 1-925-222-5014

2. HAZARDS IDENTIFICATION

Appearance Pale brown liquid

Physical state Liquid

Odor Barely perceptible

Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Respiratory sensitization	Category 1

Signal Word

Danger

Hazard statements

Harmful if inhaled

May cause allergy or asthma symptoms or breathing difficulties if inhaled



Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

In case of inadequate ventilation wear respiratory protection

Precautionary Statements - Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Glycerol	56-81-5	50-70
Acetolactatedecarboxylase	9025-02-9	1-10

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**Description of first aid measures**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call Poison Control or doctor/physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. If irritation or discomfort occurs, obtain medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms	Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
-----------------	--

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
---------------------------	------------------------

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

Hazardous combustion products Toxic fumes may be emitted in a fire situation.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Absorb with inert material or sweep up, and then place in suitable container for chemical waste.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Strong oxidizing agents. Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-

Appropriate engineering controls

Engineering Controls

Showers. Eyewash stations. Ventilation systems. Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Tight sealing safety goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection

Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection

In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Barely perceptible
Appearance	Pale brown liquid	Odor Threshold	Not determined
Color	Pale brown		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	5.2-5.4		
Melting point / freezing point	No data available		
Initial boiling point and boiling range	No data available		
Flash point	No data available		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	Not determined		
Flammability Limit in Air			
Upper flammability or explosive limits	No data available		
Lower flammability or explosive limits	No data available		
Vapor Pressure	Not determined		
Vapor Density	No data available		
Relative Density	1.15		
Water Solubility	Soluble in water		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Autoignition temperature	No data available		
Hyphen	Not determined		
Kinematic viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents. Strong acids.

Hazardous decomposition products

Toxic fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Harmful if inhaled.
Ingestion	Do not ingest.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol 56-81-5	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Please see section 4 of this SDS for symptoms.
-----------------	--

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenicity	Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50	18,000.00 mg/kg
Dermal LD50	14,285.70 mg/kg ppm
ATEmix (inhalation-dust/mist)	3.93 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Glycerol 56-81-5		LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Chemical name	Partition coefficient
Glycerol 56-81-5	-1.75

Other adverse effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods**Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AIIC
Glycerol	X	ACTIVE	X	X	X	X	X	X	X
Acetolactatedecarboxylase			X						

Legend:*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS - Japan Existing and New Chemical Substances*

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Glycerol 56-81-5	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health hazards	Flammability	Instability	Special hazards
	-	-	-	-
<u>HMIS</u>	Health hazards	Flammability	Physical hazards	Personal Protection
	-	-	-	Not determined

Issue Date: 28-Sep-2023

Revision Date: 28-Sep-2023

Revision Note: New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

End of Safety Data Sheet