



Safety Data Sheet

Revision date: 02.24.2021

Trade name Enzyme 16

Product number MP0059

Version: 1

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product names: Enzyme 16

Product numbers: MP0059

Relevant identified uses: This product is for research and development only.

Uses advised against: No information available.

1.2 Details of the supplier of the safety data sheet:

Supplier name: Arc Bio, LLC.

Address: 100 Enterprise Way, Suite A102, Scotts Valley, CA 95066

Contact information: +1 650 690 7737

1.3 Emergency telephone number:

Toll free (US): +1 866 519 4752 (access code: 335675)

(US): +1 760 476 3971 (access code: 335675)

(UK): +44 8 08 189 0979 (access code: 335675)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).



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This product contains no substances, which at their given concentration, are considered to be hazardous to health.

Label elements:

Label according to Regulation (EC) No 1272/2008 [CLP/GHS]

Appearance: Colorless

Physical state: Liquid

Odor: Mild

Hazard pictograms: None

Supplemental hazard information: N/A

Other hazards: No data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Description of the mixture:

Carcinogenicity – Category 1A

Specific target organ toxicity single exposure – Category 1

Chemical Name	Concentration (% w/w)
Glycerol (CAS 56-81-5)	>= 10 - < 20
Methanaminium, N,N,N-trimethyl-chloride (1:1) (CAS 75-57-0)	>= 1 - < 5



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Sulfuric Acid (CAS 7664-93-9)	$\geq 0.1 - < 1$
DNA-dependent DNA Polymerase (9012 – 90- 2)	< 0.1

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information:

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show instructions for use or safety data sheet if possible). Remove from exposure, lie down/do not breathe dust/fume/gas/mist/vapor/spray.

Following inhalation: Remove to fresh air.

Following skin contact: Wash skin with soap and water.

Following eye contact: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Following ingestion: Clean mouth with water (avoid milk or alcoholic beverages) and keep respiratory tract clear. Take victim immediately to the hospital and consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the physicians: Treat symptomatically.



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5. FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

No information available.

5.3 Advice 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

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Ensure adequate ventilation, especially in confined areas.

Protective equipment: Use personal protection recommended in Section 8.



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6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

See Section 12 for additional ecological information.

6.3 Methods and material for containment and cleaning up

For containment: Prevent further leakage or spillage if safe to do so.

For cleaning up: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Protective measures:

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice.

Storage conditions: Keep/Store in original container.

Storage temperature: - 20°C

Incompatible materials: No information available

Environmental precautions: Dispose of according to local regulations.



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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Preventive industrial medical examinations are to be carried out.

8.1 Control parameters

Occupational Exposure Limits:

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol (CAS 56-81-05)		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	–
Sulfuric Acid (CAS 7664-93-9)	TWA: 0.2mg/m ³	TWA: 1mg/m ³	1mg/m ³

8.2 Exposure controls

Appropriate engineering controls: No special engineering controls are required. Use with good general ventilation.

Personal protective equipment:

Eye/Face protection:

Suitable eye protection – wear safety glasses with side shields (or goggles).



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Skin protection:

Hand protection: Wear suitable gloves.

Body protection: Wear suitable protective clothing.

Respiratory protection: Use in well-ventilated areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:

Physical state: Liquid

Color: Colorless

Odor: Lightly of ammonia

Property	Value
pH	8.7
Melting point/freezing point	No information available
Initial boiling point/boiling range	No information available
Flash point	Does not flash
Evaporation rate	No information available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No information available
Upper explosive limits	No information available
Lower explosive limits	No information available
Vapor pressure	No information available



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Property	Value
Vapor density	No information available
Relative density	1.08 g/cm ³
Solubility (ies)	Fully miscible
Partition coefficient: n-octanol/water	No information available
Auto-ignition temperature	Not self-igniting
Decomposition temperature	No information available
Viscosity	No information available
Viscosity, dynamic	No information available
Viscosity, cinematic	No information available
Explosive properties	No information available
Oxidizing properties	Not classified as oxidizing

10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions



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Stable under normal conditions

10.4 Conditions to avoid

No information available

10.5 Incompatible materials

Strong oxidizing reagents

10.6 Hazardous decomposition products

No decomposition products posing significant hazards would be expected from this product (a dilute aqueous solution).

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Information on likely routes of exposure:

Inhalation: Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Eye Contact: Redness. May cause slight irritation.

Skin Contact: Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

Ingestion: May cause drowsiness or dizziness. Ingestion causes burns of upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.



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11.2 Substance

Information on toxicity effects:

Symptoms: No information available.

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

Skin corrosion/irritation	No information available
Serious eye damage/eye irritation	Risk of serious damage to eyes
Irritation	Irritating to skin
Corrosivity	No information available
Sensitization skin	No information available
Respiratory	No information available
Germ cell mutagenicity	No information available
Carcinogenicity	May cause cancer
Reproductive toxicity	No information available
Developmental toxicity	No information available
Teratogenicity	No information available
STOT – single exposure	No information available
STOT – repeated exposure	No information available
Chronic toxicity	No information available
Sub-chronic toxicity	No information available
Target organ effects	Causes damage to organs
Neurological effects	No information available
Other adverse effects	No information available

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Aspiration hazard	No information available
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Numerical measures of toxicity:

Product information, no information available.

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

No information available.

12. ECOLOGICAL INFORMATION

In case that test data regarding one endpoint/differentiation exist for the mixture itself, the classification is carried out according to the substance criteria (excluding biodegradation and bioaccumulation). If no test data exist, the criteria for mixture classification has to be used (calculation method); in this case the toxicological data of the ingredients are shown.

12.1 Toxicity

Aquatic toxicity: Toxic to aquatic life with long lasting effects

Chemical name	Algae/Aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol (CAS 56-81-5)	–	51–57: 96 h <i>Oncorhynchus mykiss</i> mL/L LC ₅₀ static	–	500: 24 h <i>Daphnia magna</i> mg/L EC ₅₀
Methanaminium, N,N,N-trimethyl-, chloride (1:1)	115: 72h <i>Pseudokirchneriella subcapitata</i> 115	462: 96h <i>Pimephales</i>		0.16: 11d (<i>Daphnia magna</i>): 0.16 mg/l EC ₅₀

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(CAS 75-57-0)	mg/l ErC ₅₀	<i>promelas</i> mg/l LC ₅₀		0.03: 11d <i>Daphnia magna</i> mg/l NOEC 1.86: 48h <i>Daphnia magna</i> mg/l LC ₅₀
Sulfuric Acid (CAS 7664-93-9)		25: 24h <i>Lepomis macrochirus</i> mg/l LC ₅₀ 42: 96h <i>Gambusia affinis</i> : mg/l LC ₅₀ 6.3: 24h (Fish): mg/l LC _o		29: 24h <i>Daphnia magna</i> : mg/l EC ₅₀

Terrestrial toxicity: No information available.

12.2 Persistence and degradability

Expected to be biodegradable

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

Not expected to absorb in soil



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12.5 Other adverse effects

Ozone: No information available.

Ozone depletion potential (ODP): No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Relevant information: Dispose of in accordance to local regulations and environmental legislation

Disposal considerations: Use a licensed professional waste disposal service to dispose of this product. Product maybe dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging: Empty containers must be triple rinsed prior to disposal. Do not reuse empty containers.

14. TRANSPORT INFORMATION

14.1 DOT

Not Regulated

14.2 IATA

Not Regulated



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15. REGULATORY INFORMATION

15.1 International inventories

TSCA: Complies

Legend:

TSCA – United States Toxic Substances Control Act Section 8(b) inventory.

15.2 US Federal Regulations

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

CERCLA: Sulfuric acid (CAS 7664-93-9)

Component RQ: 1000 lbs

Calculated product RQ: (Calculated RQ exceeds reasonable attainable upper limit)

15.3 US State Regulations

California Proposition 65: This product can expose you to chemicals including sulfuric acid, which is known to the State of California to cause cancer..

U.S. State Right-to-Know Regulations:

Massachusetts: Glycerol (CAS 56-81-5)

Sulfuric Acid (CAS 7664-93-9)



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Pennsylvania:	Water	(CAS 7732-18-5)
	Glycerol	(CAS 56-81-5)
	Sulfuric Acid	(CAS 7664-93-9)

U.S. EPA Label Information:

EPA Pesticide Registration Number: Not applicable. Safety, health and environmental regulations/legislation specific for the substance or mixture.

15.4 EU Regulations

Authorizations and/or restrictions on use:

Authorizations: None

Restrictions on use: None

Restrictions of occupation: None

Other EU regulations: None

15.5 Chemical Safety Assessment

For this substance a Chemical Safety Assessment is not required.



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16. OTHER INFORMATION

16.1 General information

NFPA

Health hazards 1

Flammability 0

Physical Hazards 0

Personal Protection –

HMIS

Health hazards 4

Flammability 0

Physical Hazards 0

Personal Protection –



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Prepared by: Product Development Manager +1 650 690 7737

Prepared by: Arc Bio, LLC

Issue date: 02.25.2021

Revision date: 02.24.2021

Revision Number: 01

Revision note: SDS is valid for 3 years for revision date.

16.2 Abbreviations and acronyms

None

16.3 Disclaimer

Important: The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revisions date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind, and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instruction. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable government requirements. Since conditions of use of the product are not under the control of Arc Bio, LLC., it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Arc Bio, LLC. will not be liable for any damages resulting from the handling or contact with the product.