

## Material Safety Data Sheet

Version: 1.1  
Revision Date: June, 2025

<b>SECTION 1. PRODUCT AND COMPANY IDENTIFICATION</b>	
<b>1.1</b>	<b>Product identifier</b>
Product Code	enz_gdh_003
Product Name	Lyophilized glutamate dehydrogenase
REACH No.	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	9001-46-1
<b>1.2</b>	<b>Relevant identified uses</b>
Identified uses	For research use only, not for human or veterinary use.
<b>1.3</b>	<b>Details of the supplier of the safety data sheet</b>
Company	Swissaustral USA, LLC.
Company Address	111 Riverbend Rd., Athens, GA306002.
Web site	www.swissaustral.com
Telephone	+1 706 206 8984
Emergency Phone	+1 706 363 36 46

<b>SECTION 2. HAZARDS IDENTIFICATION</b>	
<b>2.1</b>	<b>Classification of the substance or mixture</b>
	Not a hazardous substance or mixture.
<b>2.2</b>	<b>Label elements</b>
	Not expected to produce significant adverse health effects when the recommended instructions for use are followed.
<b>2.3</b>	<b>Hazards not otherwise classified (HNOC) or not covered by GHS</b>
	None

<b>SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS</b>	
<b>3.1</b>	<b>Mixture</b>
	There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

<b>SECTION 4. FIRST AID MEASURES</b>	
<b>4.1</b>	<b>Description of first aid measures</b>
General advice	Show this safety data sheet to the doctor in attendance. Move out from dangerous area.

If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact	Wash off with water plenty. Consult a physician.
In case of eye contact	Flush eyes with water as a precaution and consult a physician.
In cases of ingestion	Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
<b>4.2</b>	<b>Most important symptoms and effects, both acute and delayed</b>
	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
<b>4.3</b>	<b>Indication of any immediate medical attention and special treatment needed</b>
	No data available.

<b>SECTION 5. FIREFIGHTING MEASURES</b>		
<b>5.1</b>	<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>5.2</b>	<b>Special hazards arising from the substance or mixture</b>	None known.
<b>5.3</b>	<b>Advice for firefighters</b>	Wear self-contained breathing apparatus for fighting if necessary.
<b>5.4</b>	<b>Further information</b>	No data available.

<b>SECTION 6. ACCIDENTAL RELEASE MEASURES</b>		
<b>6.1</b>	<b>Personal precautions, protective equipment and emergency procedures</b>	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. For personal protection see section 8.
<b>6.2</b>	<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
<b>6.3</b>	<b>Methods and material for containment and cleaning up</b>	Contain spillage, and then collect with a wet-brushing and place in container for disposal according to local regulations (see section 13).
<b>6.4</b>	<b>Reference to other sections</b>	For disposal see section 13.

<b>SECTION 7. HANDLING AND STORAGE</b>		
<b>7.1</b>	<b>Precautions for safe handling</b>	Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin and eye. Avoid inhalation. For precautions see section 2.2
<b>7.2</b>	<b>Conditions for safe storage</b>	Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C.

<b>7.3</b>	<b>Specific end use(s)</b>	A part from the uses mentioned in section 1.2 no other specific uses are stipulated.
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<b>SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION</b>		
<b>8.1</b>	<b>Control parameters</b>	
		Contains no substances with occupational exposure limit values.
<b>8.2</b>	<b>Exposure controls</b>	
<b>8.2.1</b>	<b>Appropriate engineering controls</b>	
		Handle in accordance with food industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>8.2.2</b>	<b>Personal protective equipment</b>	
	Eye/face protection	Use equipment for eye protection tested and approved under appropriate government standard such as NIOSH (US) or EN 166(EU).
	Skin/Hand protection	Handle with compatible chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and food laboratory practices. Wash and dry hands.
	Body Protection	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
	Respiratory protection	Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standard such as NIOSH (US) or CEN (EU).
	Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

<b>SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES</b>		
<b>9.1</b>	<b>Appearance</b>	
	Form	Lyophilized powder
	Colour	Pale yellow
<b>9.2</b>	<b>Safety data</b>	
	pH	8.0 - 8.5
	Melting point/ Freezing point	No data available.
	Boiling point	No data available.
	Flash point	No data available.
	Ignition temperature	No data available.

Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Lower explosion limit	No data available.
Upper explosion limit	No data available.
Vapour pressure	No data available.
Relative density	No data available.
Water solubility	Easily miscible with water.
Partition coefficient: n-octano/water	No data available.
Relative vapour density	No data available.
Odour	No data available.
Odour Threshold	No data available.
Evaporation rate	No data available.
<b>9.3</b>	<b>Other safety information</b>
	No data available.

<b>SECTION 10. STABILITY AND REACTIVITY</b>		
<b>10.1</b>	<b>Reactivity</b>	No data available.
<b>10.2</b>	<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>10.3</b>	<b>Possibility of hazardous reactions</b>	No data available.
<b>10.4</b>	<b>Conditions to avoid</b>	Prolonged storage under higher temperature than room temperature and high humidity.
<b>10.5</b>	<b>Incompatible materials</b>	Strong oxidizing agents.
<b>10.6</b>	<b>Hazardous decomposition products</b>	Other decomposition products – no data available. In event of fire: see section 5.

<b>SECTION 11. TOXICOLOGICAL INFORMATION</b>		
<b>11.1</b>	<b>Information on toxicological effects</b>	
Acute toxicity	No data available. Inhalation: No data available. Dermal: No data available.	
Skin corrosion/irritation	No data available.	
Serious eye damage/eye irritation	No data available.	
Respiratory or skin sensitisation	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.	
Germ cell mutagenicity	No data available.	

Carcinogenicity	<p>IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.</p> <p>ACGIH: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.</p> <p>NTP: No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</p> <p>OSHA: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.</p>
Reproductive toxicity	No data available.
Specific target organ toxicity-single exposure	No data available.
Specific target organ toxicity- repeated exposure	No data available.
Aspiration hazard	No data available.
Additional Information	RTECS: Not available

<b>SECTION 12. ECOLOGICAL INFORMATION</b>		
<b>12.1</b>	<b>Toxicity</b>	No data available.
<b>12.2</b>	<b>Persistence and degradability</b>	Glutamate dehydrogenase decomposes and does not remain on the environment for long time, since it is a protein.
<b>12.3</b>	<b>Bioaccumulative potential</b>	No data available.
<b>12.4</b>	<b>Mobility in soil</b>	No data available.
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
<b>12.6</b>	<b>Other adverse effects</b>	No data available.

<b>SECTION 13. DISPOSAL CONSIDERATIONS</b>		
<b>13.1</b>	<b>Waste treatment methods</b>	
Product	Dispose of in accordance with all applicable local and national laws and regulations.	
Contaminated packaging	Wash with copious amounts of water and waste conforming to local regulations depending on the type of the material.	

SECTION 14. TRANSPORT INFORMATION	
14.1	DOT (US) Not dangerous goods
14.2	IMDG Not dangerous goods
14.3	IATA Not dangerous goods

SECTION 15. REGULATORY INFORMATION				
15.1	REACH No.	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.		
15.2	SARA 302 Components	SARA 302: No chemicals in this material are subjected to the reporting requirements of SARA Title III, Section 302.		
15.3	SARA 313 Components	SARA 313: This material does not contain any chemical components with known CAS number that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.		
15.4	SARA 311/312 Hazards	No SARA Hazards.		
15.5	Massachusetts Right To Know Components		CAS-No	Revision Date
		GDH	9001-46-1	2017-07-13
		Sodium chloride	7647-14-5	2017-06-22
		Tris (hydroxymethyl) aminomethane	77-86-1	2017-06-27
15.6	Pennsylvania Right To Know Components		CAS-No	Revision Date
		GDH	9001-46-1	2017-07-13
		Sodium chloride	7647-14-5	2017-06-22
		Tris (hydroxymethyl) aminomethane	77-86-1	2017-06-27
15.7	New Jersey Right To Know Components		CAS-No	Revision Date
		GDH	9001-46-1	2017-07-13
		Sodium chloride	7647-14-5	2017-06-22
		Tris (hydroxymethyl) aminomethane	77-86-1	2017-06-27
15.8	California Prop.65 Components	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.		

SECTION 16. OTHER INFORMATION	
16.1	Full text of H-Statements referred to under sections 2 and 3
Not expected to produce significant adverse health effects when the recommended instructions for use are followed.	
16.2	HMIS Rating



Health hazard	0
Chronic Health Hazard	0
Flammability	0
Physical Hazard	0
<b>16.3   NFPA Rating</b>	
Health hazard	0
Fire Hazard	0
Reactivity Hazard	0
<b>16.4   Further information</b>	
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<p>The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Swisssaustral Chile Ltda. and its affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.</p>	