

Issuing Date: 2023-12-13

Version: 1

1. Identification**A. Product identifier**

Product name Granzyme B (E5V2L) & CO-0049-647 SignalStar™ Oligo-Antibody Pair

Kit Component 84246: Granzyme B (E5V2L) Rabbit mAb (SignalStar™ Conjugate 0049)
17449: Complementary Oligo (CO-0049-647)

Product Code(s) 98534

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

Identified uses For research use only

Uses advised against No information available

C. Supplier's details

Manufacturer	Supplier	Supplier
Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400	Seoulin Bioscience Co., Ltd. 경기도 성남시 분당구 대왕판교로 700 TEL: 1670-5911 E-mail: support@seoulin.co.kr	Koram Biotech Co., Ltd. 서울시 강남구 선릉로 76길 4 Tel: 02-556-0311 E-mail: koram@korambiotech.com

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080-880-0468

2. Hazard(s) identification**A. Classification of the substance or mixture**

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

B. GHS Label elements, including precautionary statements

Signal Word
None

Hazard Statements
None

C. Other hazards which do not result in classification

Not applicable

3. Composition/information on ingredients

General Hazards Not a hazardous substance or mixture according to the Globally Harmonized System (GHS).

Kit Component 84246: Granzyme B (E5V2L) Rabbit mAb (SignalStar™ Conjugate 0049)

Chemical name	CAS No	Weight-%	Other information
glycerol	56-81-5	50	-
sodium azide	26628-22-8	<0.1	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	<0.1	-

Kit Component 17449: Complementary Oligo (CO-0049-647)

These products do not contain substances at concentrations requiring disclosure

4. First-aid measures

A. In case of eye contact Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

B. In case of skin contact Wash skin with soap and water.

C. In case of inhalation Move to fresh air.

D. In case of ingestion Clean mouth with water and afterwards drink plenty of water.

E. Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

Symptoms Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

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

Unsuitable Extinguishing Media No information available.

B. Specific hazards arising from the chemical

C. Special Protective Equipment for Firefighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

B. Environmental precautions

See Section 12 for additional Ecological Information.

C. Methods and material for containment and cleaning up

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

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

A. Precautions for safe handling

Advice on safe handling Wear personal protective equipment. See section 8. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

B. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place

Incompatible products Strong oxidizing agents. Strong acids.

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

8. Exposure controls/personal protection

A. Control Parameters

Occupational exposure limits

Chemical name	Korea	ACGIH TLV
glycerol	TWA 10 mg/m ³	
sodium azide	Ceiling: 0.29 mg/m ³	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm

B. Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Environmental exposure controls No information available.

C. Personal Protective Equipment

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment.

Eye protection Tight sealing safety goggles.

Hand protection Impervious gloves.

Body protection Wear suitable protective clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Kit Component 84246: Granzyme B (E5V2L) Rabbit mAb (SignalStar™ Conjugate 0049)
Physical state Liquid
Appearance Clear
Color Colorless

Kit Component 17449: Complementary Oligo (CO-0049-647)
Physical state Liquid
Appearance Clear
Color Colorless

10. Stability and reactivity

A. Chemical stability and possibility of hazardous reactions

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Explosion Data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

B. Conditions to Avoid

Extremes of temperature and direct sunlight. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide.

C. Incompatible products

Strong oxidizing agents. Strong acids.

D. Hazardous Decomposition Products

Nitrogen oxides (NOx).

11. Toxicological information

A. Information on the likely routes of exposure

Product Information

Inhalation	Avoid breathing vapors or mists May cause irritation of respiratory tract
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Eye contact	Avoid contact with eyes May cause slight irritation
Skin contact	Avoid contact with skin
Symptoms	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

B. Health hazards information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
water	> 90000 mg/kg (Rat)	-	-
sodium chloride	3000 mg/kg (Rat)	10 g/kg (Rabbit)	42 g/m ³ (Rat) 1 h
p-(1,1,3,3-tetramethylbutyl)phenylethether	= 1800 mg/kg (Rat)	-	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-

Skin corrosion/irritation	No information available
Serious eye damage/eye irritation	No information available.
Sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
Specific target organ toxicity (STOT) – single exposure	No information available
Specific target organ toxicity (STOT) – repeated exposure	No information available
Aspiration hazard	No information available.

12. Ecological information

A. Ecotoxicity	The environmental impact of this product has not been fully investigated.
Product Information	No information available

Component Information

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
glycerol	-	LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h	EC50 500 mg/L (Daphnia magna) 24 h
sodium chloride	-	LC50 5560 - 6080 mg/L (Lepomis macrochirus) 96 h LC50 12946 mg/L (Lepomis macrochirus) 96 h LC50 4747 - 7824 mg/L (Oncorhynchus mykiss) 96 h LC50 7050 mg/L (Pimephales promelas) 96 h LC50 6420 - 6700 mg/L (Pimephales promelas) 96 h LC50 6020 - 7070 mg/L (Pimephales promelas) 96 h	EC50 340.7 - 469.2 mg/L (Daphnia magna) 48 h EC50 1000 mg/L (Daphnia magna) 48 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylethher	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h

B. Persistence and degradability No information available.

C. Bioaccumulative potential

Chemical name	Octanol-Water Partition Coefficient
glycerol	-1.76

D. Mobility in soil No information available.

E. Other adverse effects No information available.

13. Disposal considerations

A. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

B. Disposal considerations

Contaminated packaging Do not reuse empty containers.

14. Transport information

A. UN number	Not regulated
B. UN proper shipping name	Not regulated
C. Transport hazard class(es)	Not regulated
D. Packing group	Not regulated
E. Marine Pollutant	Not regulated
F. Special precautions for user	No information available

15. Regulatory information

A. Industrial Safety and Health Law

Harmful substances subject to control Not applicable
Harmful agents subject to work environment monitoring Not applicable
Harmful agents subject to workers requiring health examination Not applicable

B. Chemicals Control Act

not applicable

Chemicals Control Act (CCA) - Accident Precaution Chemicals Not applicable

C. Safety Control of Dangerous Substances Act

No information available

D. Wastes Management

Dispose of waste in accordance with environmental legislation.

E. Other Regulations

No information available

International inventories

TSCA 8(b)	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

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 Commercial Chemical Substances/EU 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

16. Other information

A. Information source and references

Prepared By No information available.

B. Issuing Date:

2023-12-13

C. Revision number and date

Version: 1

D. Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

IMDG

International Maritime Dangerous Goods (IMDG)

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA:	Time weighted average	STEL:	Short term exposure limit
Ceiling:	Maximum limit value:	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

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

pH	7.5
Physical state	Liquid