



Revision Date 2022-08-01

Revision Number 2

## 1. Identification

### A. Product identifier

**Product Name** TaKaRa Ex Taq HS

**Product Code** SD0349

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

**Identified uses** For research use only. Not for use in diagnostic procedures

**Uses advised against** No information available

### C. Supplier's details

#### Supplier

Japan:

Takara Bio Inc.

Nojihigashi 7-4-38

Kusatsu, Shiga 525-0058, Japan

Phone: +81.77.565.6972

Web: www.takara-bio.com

Korea:

Takara Korea Biomedical Inc.

601, New T Castle, 108, Gasan Digital 2-ro, Geumcheon-gu

Seoul 08506, Korea

Phone: +82.2.2081.2525

Web: www.takara.co.kr

For further information, please contact:

**Emergency telephone number** In case of emergency, call PERS (Professional Emergency Resource Services) 1-800-633-8253 (US) or 801-629-0667 (international).

## 2. Hazard(s) identification

### A. Classification of the substance or mixture

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Chronic aquatic toxicity	Category 4

### B. GHS Label elements, including precautionary statements

**Hazard symbols**



Signal word

Warning

**Hazard Statements**

H315 - Causes skin irritation

H332 - Harmful if inhaled

H413 - May cause long lasting harmful effects to aquatic life

**Precautionary Statements - Prevention**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P273 - Avoid release to the environment

**Precautionary Statements - Response**

P321 - Specific treatment (see .? on this label)

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

**Precautionary Statements - Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**C. Other hazards which do not result in classification**

No information available.

### 3. Composition/information on ingredients

**Substance**

Not applicable

**Mixture**

Chemical name	Common name and synonyms	CAS No	Other identifier number	Weight-%	Approval number	Expiration date
Glycerol	No information available	56-81-5	KE-29297	60 - 70	-	-
Poly(oxyethylene) nonylphenyl ether (NP-40)	No information available	9016-45-9	KE-26244	0.1 - 1	-	-

### 4. First-aid measures

**A. In case of eye contact**

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

**B. In case of skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

**C. In case of inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**D. In case of ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

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

Show this safety data sheet to the doctor in attendance.

**Note to physicians**

Treat symptomatically.

**Symptoms**

Coughing and/ or wheezing. Difficulty in breathing.

**Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

## 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.

**Large Fire**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media**

Do not scatter spilled material with high pressure water streams.

**B. Specific hazards arising from the chemical**

No information available.

**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**

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Avoid breathing vapors or mists.

**Other information**

Refer to protective measures listed in Sections 7 and 8.

**For emergency responders**

Use personal protection recommended in Section 8.

**B. Environmental precautions**

Prevent further leakage or spillage if safe to do so.

**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** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### B. Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

**General hygiene considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## 8. Exposure controls/personal protection

### A. Control Parameters

#### Occupational exposure limits

Chemical name	OEL	PEL
Glycerol	TWA 10 mg/m <sup>3</sup>	-

### B. Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Environmental exposure controls** No information available.

### C. Personal Protective Equipment

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Eye protection** No special protective equipment required.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Body protection** Wear suitable protective clothing. Long sleeved clothing.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**A. Appearance** Clear, colorless  
**Physical State** Liquid  
**Color** Clear  
**B. Odor** Unpleasant  
**C. Odor Threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
D. pH	No data available	None known
E. Melting point / freezing point	No information available	None known
F. Initial boiling point and boiling range	No information available	None known
G. Flash point	No information available	Open cup
H. Evaporation Rate	No information available	None known
I. Flammability (solid, gas)	No information available	None known
J. Upper/lower flammability or explosive limits		
Upper flammability limit:		No information available
Lower flammability limit:		No information available
K. Vapor pressure	No information available	None known
L. Solubility(ies)		
Water solubility	No information available	None known
Solubility in other solvents	No information available	None known
M. Vapor density	No information available	None known
N. Specific Gravity	No information available	None known
O. Partition coefficient: n-octanol/water	No information available	None known
P. Autoignition Point	392.8 °C / 739 °F	None known
Q. Decomposition temperature		None known
R. Viscosity		
Kinematic viscosity	No information available	None known
Dynamic Viscosity	No information available	None known
S. Molecular weight	No information available	
<b>Other information</b>		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	

## 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

Excessive heat.

### C. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

### D. Hazardous Decomposition Products

None known based on information supplied

## 11. Toxicological information

### A. Information on the likely routes of exposure

**Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Symptoms</b>	Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.

**B. Health hazards information****Acute toxicity****Numerical measures of toxicity**

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

<b>ATEmix (dermal)</b>	15,863.70 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	4.36 mg/l

**Unknown acute toxicity**

1.77024 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h
Poly(oxyethylene) nonylphenyl ether (NP-40)	= 2590 mg/kg ( Rat )	= 1780 µL/kg ( Rabbit )	-

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes skin irritation.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Carcinogenicity** No information available.

**Germ cell mutagenicity** 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.

**Target organ effects** Kidney. Respiratory system. Eyes. Skin.

**Aspiration hazard** No information available.

## 12. Ecological information

### A. Ecotoxicity

May cause long lasting harmful effects to aquatic life.

**Percentage for unknown hazards** 0.77024 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-

**B. Persistence and degradability** No information available.

**C. Bioaccumulative potential** There is no data for this product.

### Component Information

Chemical name	Partition coefficient
Glycerol	-1.75
Poly(oxyethylene) nonylphenyl ether (NP-40)	3.7

**D. Mobility in soil** No information available.

**Mobility** No information available.

**E. Other adverse effects** No information available.

### Endocrine Disruptor Information

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
Poly(oxyethylene) nonylphenyl ether (NP-40)	Endocrine disrupting properties	-

## 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 or ID 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 applicable  
**F. Special precautions for user** Not regulated

## 15. Regulatory information

**A. Industrial Safety and Health Law** Not applicable

**Prohibited substance** Not applicable

**Substances Requiring Permission** Not applicable

**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

**Harmful or dangerous substances subject to submission of process safety reports** Not applicable

**Control parameters**

See section 8 for national exposure control parameters

Chemical name	OEL	PEL
Glycerol	Applicable	Not applicable

**B. Chemicals Control Act**

Chemical name	Toxic substance	Prohibited substance	Restricted substance
Poly(oxyethylene) nonylphenyl ether (NP-40)	2021-1-1044, 25 % *	Not applicable	06-5-6, 0.1 % *
<i>* Mixtures containing this % or more are designated</i>			

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

**Act on Registration, Evaluation, etc. of Chemicals (K-REACH)** Applicable

Chemical name	Existing substances subject to registration	Existing substances not likely to be subject to registration	Existing substances known to be of very low risk
Glycerol	Not applicable	Applicable	Not applicable
Poly(oxyethylene) nonylphenyl ether (NP-40)	Applicable	Not applicable	Not applicable

**C. Safety Control of Dangerous Substances Act** Not applicable

**D. Wastes Management** Dispose of waste in accordance with environmental legislation.

**E. Other Regulations** No information available

**International Inventories**

**IECSC**

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*

## 16. Other information

**A. Information source and references**



**Prepared By** No information available.

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

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)  
 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
**	Hazard Designation	+	Sensitizers

**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  
 World Health Organization

**B Revision number and date**

<b>Revision Number</b>	2
<b>Revision Date</b>	2022-08-01

**C. Other**

**Disclaimer**

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**End of Safety Data Sheet**