



# Safety Data Sheet

This safety data sheet complies with the requirements of:  
JIS Z 7253:2019

Revision Date 2021-02-05  
Revision Number 8

## 1. Identification

**Product Name** B/B Homodimerizer  
**Product Code** 635060  
**CAS-No** 64-17-5  
**Registration number** No information available  
**Details of the supplier of the safety data sheet**

### Supplier

Japan:

Takara Bio Inc.

Nojihigashi 7-4-38

Kusatsu, Shiga 525-0058, Japan

Phone: +81.77.565.6972

Web: www.takara-bio.com

China:

Takara Biomedical Technology (Beijing) Co., Ltd.

Life Science Park, 22 KeXueYuan Road, Changping District,

Beijing 102206, China

Phone: +86 10 8072 0980

Web: www.takarabiomed.com.cn

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

### Recommended use of the chemical and restrictions on use

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

**Restrictions on use** No information available

## 2. Hazard(s) identification

### GHS Classification

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Category 1A
Effects on or via lactation	No effects on or via lactation
Specific target organ toxicity (single exposure)	Category 3
Category 3 Target organ effects: Respiratory irritation, Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 2
Category 2 Central nervous system.	
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Not classified chronic

Ozone	Classification not possible
-------	-----------------------------

**GHS label elements**

Signal word

Danger

**Hazard Statements**

May damage fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness

May cause damage to organs through prolonged or repeated exposure

Toxic to aquatic life

May cause damage to the following organs through prolonged or repeated exposure: Central nervous system.

**Precautionary statements****Prevention**

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Wear protective gloves/protective clothing/eye protection/face protection
- Use only outdoors or in a well-ventilated area
- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid release to the environment

**Response**

- IF exposed or concerned: Get medical advice/attention
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- Call a POISON CENTER or doctor if you feel unwell

**Storage**

- Store locked up
- Store in a well-ventilated place. Keep container tightly closed

**Disposal**

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

**Other hazards**

May be harmful if inhaled.

### 3. Composition/information on ingredients

**Pure substance/mixture**

Mixture

**CAS-No**

64-17-5

Chemical name	CAS No	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No
Ethanol-200 Proof	64-17-5	60 - 100	Existing	(2)-202	Existing	(2)-202

**Pollutant Release and Transfer Registry (PRTR)**

Not applicable

**Industrial Safety and Health Law**ISHL Notifiable Substances

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

Chemical name	CAS No	Category	Ordinance number	Content rate %
Ethanol-200 Proof	64-17-5	ISHL Notifiable Substances	061	90 - 100

Harmful Substances Whose Names Are to be Indicated on the Label

Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57 and ISHL Ordinance Article 33)

Chemical name	CAS No	Category	Ordinance number	Content rate %
Ethanol-200 Proof	64-17-5	Harmful Substances Whose Names Are to be Indicated on the Label	061	90 - 100

**Poisonous and Deleterious Substances Control Law**

Not applicable

#### 4. First-aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>In case of inhalation</b>	Remove to fresh air. IF exposed or concerned: Get medical advice/attention.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
<b>Most important symptoms/effects, acute and delayed</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
<b>Note to physicians</b>	Treat symptomatically.

#### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media Large Fire</b>	Cool drums with water spray. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.

<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

## 7. Handling and storage

### Handling

<b>Advice on safe handling</b>	Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. Avoid breathing vapors or mists. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hygiene Measures</b>	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.
<b>Storage</b>	
<b>Storage Conditions</b>	Store locked up.

## 8. Exposure controls/personal protection

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
-----------------------------	---

### Exposure guidelines

Chemical name	Japan Society of Occupational Health	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH TLV
Ethanol-200 Proof 64-17-5	-	-	STEL 1000 ppm

<b>Biological occupational exposure limits</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Environmental exposure controls</b>	No information available.
<b>Personal Protective Equipment</b>	
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Wear suitable gloves.
<b>Eye/face protection</b>	No special protective equipment required.
<b>Skin and body protection</b>	Wear suitable protective clothing.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear, colorless
<b>Physical state</b>	Liquid
<b>Color</b>	Clear
<b>Odor</b>	Characteristic
<b>Odor Threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>		No information available
<b>Boiling point/boiling range (°C)</b>		No information available
<b>Flammability (solid, gas)</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		
<b>Upper flammability limit:</b>		
<b>Lower flammability limit:</b>		

Flash point		ASTM D 56
Evaporation Rate		No information available
Autoignition temperature	363 °C / 685.4 °F	No information available
Decomposition temperature		No information available
pH		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic Viscosity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Vapor density		No information available
Relative density		No information available
Particle characteristics		
Particle Size		Not applicable
Particle Size Distribution		Not applicable

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.
Explosion Data	
Sensitivity to static discharge	None.
Sensitivity to mechanical impact	None.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

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

ATEmix (oral)	7,060.00 mg/kg
ATEmix (inhalation-dust/mist)	124.70 mg/l

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethanol-200 Proof	= 7060 mg/kg ( Rat )	-	= 124.7 mg/L ( Rat ) 4 h

Abbreviations and acronyms

Rat: Rat

<b>Symptoms</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
-----------------	--

**Product Information**

<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	May cause irritation of respiratory tract. May cause drowsiness or dizziness. May be harmful if inhaled.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Respiratory or skin sensitization</b>	Classification not possible.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	Japan	IARC
Ethanol-200 Proof 64-17-5	1A	Group 1

#### Legend

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child.
<b>Target organ effects</b>	Liver. Respiratory system. Eyes. Skin. Central nervous system. Blood. Reproductive system.
<b>STOT - single exposure</b>	May cause respiratory irritation. May cause drowsiness or dizziness.
<b>STOT - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure. May cause damage to the following organs through prolonged or repeated exposure: Central nervous system.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met. Classification not possible.

## 12. Ecological information

**Ecotoxicity** Not classified.

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethanol-200 Proof	-	12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 13400	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h

		- 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	Daphnia magna mg/L EC50 Static
--	--	--	-----------------------------------

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical name	Partition coefficient
Ethanol-200 Proof 64-17-5	-0.32

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

### 13. Disposal considerations

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

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**IMDG**

**UN number or ID number** UN1993  
**UN proper shipping name** Flammable liquid, n.o.s.  
**Description** UN1993, Flammable liquid, n.o.s. (Ethanol-200 Proof), 3, III  
**Transport hazard class(es)** 3  
**Packing group** III  
**Marine pollutant** NP  
**EmS-No** F-E, S-E  
**Special Provisions** 223, 274, 955

**ADR**

**UN number or ID number** UN1993  
**UN proper shipping name** Flammable liquid, n.o.s.  
**Description** UN1993, Flammable liquid, n.o.s. (Ethanol-200 Proof), 3, III, (D/E)  
**Transport hazard class(es)** 3  
**Packing group** III  
**ERG Code** 3L  
**Special Provisions** 274, 601

**IATA**

**UN number or ID number** UN1993  
**UN proper shipping name** Flammable liquid, n.o.s.  
**Description** UN1993, Flammable liquid, n.o.s. (Ethanol-200 Proof), 3, III  
**Transport hazard class(es)** 3  
**Packing group** III  
**Special Provisions** A3  
**ERG Code** 3L

**Japan**

**UN number or ID number** UN1993  
**UN proper shipping name** Flammable liquid, n.o.s.  
**Description** UN1993, Flammable liquid, n.o.s. (Ethanol-200 Proof), 3, III  
**Transport hazard class(es)** 3

<b>Packing group</b>	III
<b>Special Provisions</b>	223, 274

## 15. Regulatory information

### National regulations

#### **Pollutant Release and Transfer Registry (PRTR)**

Not applicable

#### **Industrial Safety and Health Law**

##### **Dangerous Substances**

Industrial Safety and Health Law enforcement order Table 1 (related to article 6 and article 9-3)

Flammable substance

##### **Harmful Substances Whose Names Are to be Indicated on the Label**

Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57 and ISHL Ordinance Article 33)

##### **ISHL Notifiable Substances**

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

#### **Poisonous and Deleterious Substances Control Law**

Not applicable

#### **Fire Service Law:**

Not applicable

#### **Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

#### **Ship (Marine Transportation) Safety Act**

See section 14 for more information

#### **Civil Aeronautics Act**

See section 14 for more information

#### **Act on Prevention of Marine Pollution and Maritime Disaster**

Subject to the Law Regarding the Prevention of Marine Pollution and Maritime Disaster and its Ordinance, Table 1- 1; category X

Subject to the Law Regarding the Prevention of Marine Pollution and Maritime Disaster and its Ordinance, Table 1- 3; category Z

#### **Act on Port Regulation Law**

See section 14 for more information

#### **Air Pollution Control Law**

Air pollutants with regulated emissions standards, Air Pollution Control Act article 3

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

### International Regulations

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

### 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

**Revision Date** 2021-02-05  
**Revision Note** No information available.

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

#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	Time weighted average	Ceiling	Maximum limit value
*	Skin designation	+	Sensitizers
**	Hazard 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 Chemicals Agency  
 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

### Disclaimer

This SDS complies with the requirements of JIS Z 7253:2019 (Japan). 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.

### Notice to Purchaser:

Our products are to be used for research purposes only. They may not be used for any other purpose, including, but not limited to, use in drugs, in vitro diagnostic purposes, therapeutics, or in humans. Our products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without our prior written approval. Your use of this product is also subject to compliance with the licensing requirements described on the product's web page. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements. All other marks are the property of their respective owners. Certain trademarks may not be registered in all jurisdictions.

**End of Safety Data Sheet**