



Safety Data Sheet

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

Revision Date 2021-02-05
Revision Number 7

1. Identification

Product Name A/C Heterodimerizer
Product Code 635057
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

Not classified

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	Category 2B
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Category 1A
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 1
Category 1 Liver.	
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

Not classified

Causes eye irritation

May cause cancer

May damage fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure

Causes damage to the following organs through prolonged or repeated exposure: Liver.

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

Prevention

- Obtain special instructions before use
- Do not handle until all safety precautions have been read and understood
- Use personal protective equipment as required
- Wash face, hands and any exposed skin thoroughly after handling
- Do not breathe dust/fume/gas/mist/vapors/spray
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area

Response

- IF exposed or concerned: Get medical advice/attention
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

In case of inhalation	Remove to fresh air.
In case of skin contact	Wash skin with soap and water.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
In case of ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms/effects, acute and delayed	No information available.
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation.
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For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	See Section 12 for additional Ecological Information.
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

Handling

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

Storage

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Engineering controls 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

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Environmental exposure controls No information available.

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/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance Clear, colorless
Physical state Liquid
Color Clear
Odor Characteristic
Odor Threshold No information available

Property

Melting point / freezing point

Boiling point/boiling range (°C)

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Upper flammability limit:

Lower flammability limit:

Flash point

Evaporation Rate

Values

Remarks • Method

No information available

No information available

No information available

ASTM D 56

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)
- 100 % 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

Symptoms No information available.

Product Information

Ingestion	Specific test data for the substance or mixture is not available.
Inhalation	Specific test data for the substance or mixture is not available.

Skin contact	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin corrosion/irritation	Based on available data, the classification criteria are not met. Classification not possible.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met. Classification not possible.
Respiratory or skin sensitization	Classification not possible.
Germ cell mutagenicity	Based on available data, the classification criteria are not met. Classification not possible.
Carcinogenicity	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

Target organ effects	Liver. Respiratory system. Eyes. Skin. Central nervous system. Blood. Reproductive system.
STOT - single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.

Causes damage to the following organs through prolonged or repeated exposure: Liver.

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

Aspiration hazard	Based on available data, the classification criteria are not met. Classification not possible.
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12. Ecological information

Ecotoxicity	Classification not possible. Based on available data, the classification criteria are not met.
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Percentage for unknown hazards 0.05 % 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 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static	9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h 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
Packing group III
Special Provisions 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

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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 sheetLegend 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

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End of Safety Data Sheet