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# Safety Data Sheet

## Section 1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Ethylene dimethacrylate

Reference number(SDS):54447jis_J_E1-2

Product type:

Reagent

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

Relevant identified uses of the product: Research and Development

Uses advised against: Do not use for other purposes.

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.
Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan
Division: Quality Assurance Department
Telephone number: +81-48-986-6161
FAX: +81-48-989-2787
e-mail address: shiyaku-t@junsei.co.jp

## Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Skin sensitization: Category 1B

Specific target organ toxicity - repeated exposure: Category 1 (respiratory organs)

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

H317-May cause an allergic skin reaction

H372-Causes damage to organs through prolonged or repeated exposure

PRECAUTIONARY STATEMENT

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves.

Contaminated work clothing should not be allowed out of the workplace.

Do not eat, drink or smoke when using this product.

Response

Get medical advice/attention if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Disposal

Dispose of contents/container in accordance with local/national regulation.

## Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Ethylene dimethacrylate

Content (%):97.0 <

Chemical formula:C10H14O4

ENCS:2-1056; 2-1059

CAS No.:97-90-5

MW:198.22

EC No.:202-617-2

Stabilizing additives

Hydroquinone : ca. 100ppm

Note : The figures shown above are not the specifications of the product.

## Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

Wash with plenty of soap and water.

If skin irritation or rash occurs: 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 SWALLOWED

Rinse mouth.

Call a POISON CENTER/doctor/physician if you feel unwell.

Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

## Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

## Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

## Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.
Avoid contact with eyes.

Safety Measures

Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
When using do not eat, drink or smoke.

Any incompatibilities

Strong acids, Strong bases, Strong oxidizing agents, Reducing agents, Heavy metal salts, Polymerization initiators (e.g.　Peroxides etc.) should not be mixed with the chemicals.

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Take off contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Store in a well-ventilated place. Keep container tightly closed.
Keep cool. Protect from sunlight.
Store in accordance with local/national regulation.
Storage temperature upper limit: 10℃
Storage temperature lower limit: 2℃

Container and packaging materials for safe handling

Keep only in original packaging.

Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See

Section 8 for exposure controls and personal protection recommendations.

## Section 8. Exposure controls/personal protection

Control parameters

Control value and concentration standard value are not available in ISHA.

Adopted value

Adopted value in JSOH is not available.

Adopted value in ACGIH is not available.

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Select and wear respiratory protection in accordance with approved standards (e.g. JIS T8150).

Hand protection

Wear protective gloves. Recommended material(s): butyl rubber

Inspect before use and replace worn or damaged gloves.

Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions.

Chemical-resistant, impervious gloves complying with an approved standard (e.g. JIS T8116) should be used.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection in accordance with approved standards (e.g. JIS T8147).

Skin and body protection

Wear impervious clothing and boots in case of repeated or prolonged treatment.

Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.

## Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless～Yellow

Odor: Characteristic odor

Odor threshold data is not available.

Melting point/Freezing point: -40℃

Boiling point or initial boiling point: 260℃

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit data is not available.

Flash point: 101℃(c.c.)

Auto-ignition temperature: 395℃

Decomposition temperature data is not available.

Self-Accelerating Decomposition Temperature/SADT data is not available.

pH data is not available.

Dynamic viscosity: 3.2mPas(20℃)

Kinematic viscosity: 3.0mm2/s(20℃)

Solubility:

Solubility in water: 1.1g/liter(20℃)

Solubility in solvent: Soluble in ethanol, benzene.
n-Octanol/water partition coefficient: log Pow2.4
Vapor pressure: 478 Pa (20℃)
Density and/or relative density: 1.048～1.057 g/ml (20℃)
Relative vapor density (Air=1): 6.8
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.03
Particle characteristics data is not available.
Other information
Critical temperature data is not available.
Evaporation rate data is not available.
VOC data is not available.

## Section 10. Stability and Reactivity

Reactivity
Runaway polymerization may occur without stabilizer/inhibitor or when heated.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
Vapors are uninhibited and may polymerize, causing blockage of vents.
Conditions to avoid
Contact with incompatible materials.
Open flames. Heating. Light.
Incompatible materials
Strong acids, Strong bases, Strong oxidizing agents, Reducing agents, Heavy metal salts, Polymerization initiators (e.g. Peroxides etc.)
Hazardous decomposition products
Carbon oxides

## Section 11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[Product]
Based on available data, the classification criteria are not met.
[Data for components of the product]
[GHS Cat. Japan, base data]
rat LD50=8700mg/kg (REACH Registration dossier, Accessed Sept. 2018)
Acute toxicity (Dermal)
[Product]
Based on available data, the classification criteria are not met.
[Data for components of the product]
[GHS Cat. Japan, base data]
rat LD50>2000mg/kg (REACH Registration dossier, Accessed Sept. 2018)
Acute toxicity (Inhalation)
[Product]
Classification not possible (Insufficient data available or no data available).
[Data for components of the product]
No data available.
Irritant properties
Skin corrosion/irritation
[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Serious eye damage/irritation

[Product]
Based on available data, the classification criteria are not met.

[Data for components of the product]
[Company proprietary data]
rabbit：not irritating （REACH registration dossier, Accessed Sept. 2018)

Sensitization

Respiratory sensitization

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Skin sensitization

[Product]
Category 1B, May cause an allergic skin reaction

[Data for components of the product]
[GHS Cat. Japan, base data]
cat. 1; guinea pig : MAK/BAT, 1999

Germ cell mutagenicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Carcinogenicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Reproductive toxicity

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

STOT-repeated exposure

[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure

[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
respiratory system (GESTIS, Accessed Sept. 2018)

Aspiration hazard

[Product]
Classification not possible (Insufficient data available or no data available).

[Data for components of the product]
No data available.

## Section 12. Ecological Information

Ecotoxicity

Aquatic toxicity

[Product]

Classification not possible (Insufficient data available or no data available).

[Data for components of the product]

Toxicity data is not available.

Water solubility

[Data for components of the product]

1.1g/L (20℃) (ICSC, 2019)

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

[Data for components of the product]

log Pow=2.4 (ICSC, 2019)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

## Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

Dispose of contents/container in accordance with local/national regulation.

## Section 14. Transport Information

UN No., UN CLASS

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not regulated

UN Proper Shipping Name : Not regulated

Class or division (Transport hazard class) : Not regulated

Packing group : Not regulated

Environmental hazards

Marine pollutants (yes/no) : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable to Transport in bulk according to Annex II of MARPOL and the IBC Code

MARPOL Annex V - HME (Harmful to the Marine Environment)

Specific target organ toxicity - repeated exposure: cat.1

Ethylene dimethacrylate

## Section 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

97-90-5

All components are listed or exempted.

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

Chemical safety assessment

Advice on safe handling for this product can be found in sections 7 and 8 of this SDS.

## Section 16. Other information

GHS classification and labelling

H317-Skin sensitization, Category 1B: H317 May cause an allergic skin reaction

H372-STOT - Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 22nd edit., 2021 UN

IMDG Code, 2022 Edition (Incorporating Amendment 41-22)

IATA Dangerous Goods Regulations (65th Edition) 2024

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2024 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2023 Recommendation on TLVs (JSOH)

Notification No. 0111-1 (January 11, 2022), Chemical Hazards Control Division, Industrial Safety and Health Department, Labour Standards Bureau, MHLW in Japan

Supplier's data/information

Chemicals safety data management system "GHS Assistant" Version 4.30 (https://www.asahi-ghs.com/)

NITE Chemical Risk Information Platform "NITE-CHRIP" (https://www.chem-info.nite.go.jp/chem/chrip/chrip_search/systemTop)

GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.1) (May. 2024, METI)

Abbreviations and acronyms

SDS (Safety Data Sheet)

LD50 (Lethal Dose, 50%)

LC50 (Lethal Concentration, 50%)

IARC (International Agency for Research on Cancer)

ACGIH (American Conference of Governmental Industrial Hygienists)

EPA (US Environmental Protection Agency)

NTP (US National Toxicology Program)

METI (Ministry of Economy, Trade and Industry in Japan)

MHLW (Ministry of Health, Labour and Welfare in Japan)

MOE (Ministry of the Environment in Japan)
JSOH (Japan Society for Occupational Health)
ISHA (Industrial Safety and Health Act in Japan)
CSCL (Chemical Substances Control Law in Japan)
EU (European Union)
EC50 (Effective Concentration, 50%)
NOEC (No Observed Effect Concentration)
BOD (Biochemical Oxygen Demand)
COD (Chemical Oxygen Demand)
BCF (Bioconcentration Factor)
anh (anhydride)

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2022).