

Safety Data Sheet

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

Product identifier:

Product name: 3-Chloro-1-propene

Reference number(SDS):18055jis_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

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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****PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 2

Self-reactive substances and mixtures: Type G

Corrosive to metals: Category 1

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Acute toxicity (Inhalation): Category 3

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 1

Carcinogenicity: Category 1B

Specific target organ toxicity – single exposure: Category 1 (respiratory organs)

Specific target organ toxicity – single exposure: Category 2 (nervous system, cardiovascular system, liver, kidney)

Specific target organ toxicity – single exposure: Category 3 (Narcotic effects)

Specific target organ toxicity – repeated exposure: Category 1 (nervous system, respiratory organs, kidney)

Specific target organ toxicity – repeated exposure: Category 2 (blood system)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 2

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

Label elements

Signal word: Danger

HAZARD STATEMENT

H225-Highly flammable liquid and vapor

H290-May be corrosive to metals
H302-Harmful if swallowed
H331-Toxic if inhaled
H315-Causes skin irritation
H318-Causes serious eye damage
H350-May cause cancer
H370-Causes damage to organs
H371-May cause damage to organs
H336-May cause drowsiness or dizziness
H372-Causes damage to organs through prolonged or repeated exposure
H373-May cause damage to organs through prolonged or repeated exposure
H401-Toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid release to the environment.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Keep only in original packaging.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
Do not breathe vapors.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use foam, dry powder, CO2 to extinguish.
Absorb spillage to prevent material-damage.
Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Immediately call a POISON CENTER/doctor/physician.
Call a POISON CENTER/doctor/physician.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER/doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Rinse mouth. Call a POISON CENTER/doctor/physician if you feel unwell.

Storage

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

Disposal

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

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Common name, synonyms: Allyl chloride

Ingredient name:3-Chloro-1-propene

Content (%):98.0 <

Chemical formula:C3H5Cl

ENCS:2-123

CAS No.:107-05-1

MW:76.52

EC No.:203-457-6

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.

Immediately call a POISON CENTER/doctor/physician.

Keep victim warm and quiet.

Call emergency medical service.

Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician.

IF INHALED: 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.

In case of burns, immediately cool affected skin for as long as possible with cold water.

Do not remove clothing if adhering to skin.

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

If skin irritation occurs: Get medical advice/attention.

Remove and isolate contaminated clothing and shoes.

IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor/physician.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Give a slurry of activated charcoal in water to drink.

If victim is conscious, give 1 – 2 glasses of water.

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

Most important symptoms and effects, both acute and delayed

(Symptoms when inhalation or ingestion)

Cough. Sore throat. Headache. Dizziness. Weakness. Laboured breathing. Vomiting.

Unconsciousness. Abdominal pain. Burning sensation.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes

Redness of the skin. Pain. Blurred vision. Burning sensation of the skin

Indication of any immediate medical attention and special treatment needed

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Specific treatment is required.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Do not use direct water jet.

Water may be effective for cooling, but may not effect extinguishment.

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.

Cool container with water spray.

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

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

PUBLIC SAFETY: Ventilate closed spaces before entering.

Do not touch or walk through spilled material.

EVACUATION : Spill: See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Environmental precautions

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

Methods and materials for containment and cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Use clean non-sparking tools to collect absorbed material.

All equipment used when handling the product must be grounded.

Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Dike far ahead of liquid spill for later disposal.

Preventive measures for secondary accident

Absorb spillage to prevent material-damage.

Collect spillage.

Stop leak if you can do it without risk.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

Keep out of low areas.

Section 7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe vapors.

(Protective measures against fire and explosion)

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

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

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

Acids, Oxidizing agents, Powdered metals, Water. 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.

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.

Store locked up.

(Incompatible storage condition)

The product may corrode metal. Do not keep in a metal container.

Container and packaging materials for safe handling

Keep only in original packaging.

Store in a corrosion resistant/specified container with a resistant inner liner.

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 under ISHA

Concentration standard value TWA: 1ppm

Occupational Exposure Limit

JSOH

Not established

ACGIH

TWA: 1ppm; STEL: 2ppm (Eye & URT irr; liver & kidney dam)

Notation

Skin

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).

Recommended respiratory protection: Self-Contained Breathing Apparatus (SCBA)

Hand protection

Wear protective gloves. Recommended material(s): viton

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

Odor: Irritant odor

Odor threshold data is not available.

Melting point/Freezing point: -135°C

Boiling point or initial boiling point: 45°C

Boiling range data is not available.

Flammability (gases, liquids and solids): Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 2.9 vol %

Upper explosion limit: 11.2 vol %

Flash point: -32°C(Closed cup)

Auto-ignition temperature: 390°C

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 0.36g/100 ml (20°C)

Solubility in solvent: Miscible with alcohol, chloroform, ether, petrol ether.

n-Octanol/water partition coefficient: log Pow2.1

Vapor pressure: 39.3kPa (20°C)

Density and/or relative density: 0.934 ~ 0.939g/ml (20°C)

Relative vapor density (Air=1): 2.6

Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1.6

Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Runaway polymerization may occur when heated.

React with water.

Chemical stability

Stable under normal storage/handling conditions.

Highly flammable.

Possibility of hazardous reactions

The vapor is heavier than air and may travel along the ground; distant ignition possible.

The substance polymerizes under the influence of acids, heat and peroxides. This generates fire or explosion hazard. On combustion, forms toxic and corrosive fumes.

Reacts violently with strong oxidants and powdered metals. This generates fire and explosion hazard.

Reacts with water. This produces hydrochloric acid.

Attacks plastics(e.g., Polyvinyl chloride, etc.), rubber (e.g., Natural rubber, Nitrile rubber, Butyl rubber, etc.) and coatings.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heating. Sparks.

Incompatible materials

Acids, Oxidizing agents, Powdered metals, Water.

Hazardous decomposition products

Carbon oxides, Hydrogen chloride.

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 4, Harmful if swallowed

[Data for components of the product]

[NITE-CHRIP]

rat LD50: 450 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Product]

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

[Data for components of the product]

[NITE-CHRIP]

rabbit LD50: 2026 mg/kg (source: NITE)

Acute toxicity (Inhalation)

[Product]

Category 3, Toxic if inhaled

[Data for components of the product]

[NITE-CHRIP]

vapor: rat LC50: 3.506 mg/L (4-hour) (source: NITE)

Irritant properties

Skin corrosion/irritation

[Product]

Category 2, Causes skin irritation

[Data for components of the product]

[NITE-CHRIP]

Category 2 (source: NITE)

Serious eye damage/irritation

[Product]

Category 1, Causes serious eye damage

[Data for components of the product]

[NITE-CHRIP]

Category 1 (source: NITE)

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]

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

[Data for components of the product]

No data available.

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]

Category 1B, May cause cancer

[Data for components of the product]

[NITE-CHRIP]

Category 1B (source: NITE)

[IARC]

Group 3 : Not classifiable as to its carcinogenicity to humans

[ACGIH]

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans

[EPA]

Group C; Possible human carcinogen(1986)

[EU]

Category 2; Substances suspected human carcinogens

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]

Category 1, Causes damage to organs

Category 2, May cause damage to organs

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[NITE-CHRIIP]

Category 1 (respiratory system), Category 2 (cardiovascular system, liver, nervous system, kidneys),

Category 3 (Narcotic effects) (source: NITE)

STOT-repeated exposure

[Product]

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

Category 2, May cause damage to organs through prolonged or repeated exposure

[Data for components of the product]

[NITE-CHRIIP]

Category 1 (nervous system, respiratory system, kidneys), Category 2 (blood system) (source: NITE)

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]

Category 2, Toxic to aquatic life

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIIP]

Fish 14-day LC50: 1.2 mg/L (Prolonged toxicity of fish) (source: NITE)

Water solubility

[Data for components of the product]

0.36 g/100 mL (20°C) (source: ICSC, 2004)

Persistence and degradability

[Data for components of the product]

Rapidly degradable (Degradation rate: 62% (by BOD)) (source: NITE)

Bioaccumulative potential

[Data for components of the product]

BCF: < 1.3 – 5.6 (source: NITE)

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

Avoid release to the environment.

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

Section 14. Transport Information

UN No., UN CLASS

UN Number or ID Number : 1100

UN Proper Shipping Name : ALLYL CHLORIDE

3-Chloro-1-propene ,JUNSEI CHEMICAL CO., LTD.,18055jis_J_E1-2,11/Jun/2025

Class or division (Transport hazard class) : 3

Subsidiary hazard(s) : 6.1

Packing group : I

ERG GUIDE No.: 131

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1100

UN Proper Shipping Name : ALLYL CHLORIDE

Class or division (Transport hazard class) : 3

Subsidiary hazard(s) : 6.1

Packing group : I

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1100

UN Proper Shipping Name : ALLYL CHLORIDE

Class or division (Transport hazard class) : 3

Subsidiary hazard(s) : 6.1

Hazard labels : Flamm. liquid & Toxic

Packing group : I

Environmental hazards

Marine pollutants (yes/no) : no

Special precautions for user

Special precautions for user is not applicable.

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

Noxious Liquid Substances ; Cat. Y

3-Chloro-1-propene

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

Carcinogenicity: cat.1, 1A, 1B

3-Chloro-1-propene

Specific target organ toxicity – repeated exposure: cat.1

3-Chloro-1-propene

Section 15. Regulatory Information

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

Mutagenic Chemical Substances [MHLW_J Notice]

3-Chloro-1-propene

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

Chemicals listed in TSCA Inventory

107-05-1

All components are listed or exempted.

Superfund Amendments and Reauthorizations Act (SARA), Title III

SARA 313 (TRI)

3-Chloro-1-propene

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

H225-Flammable liquids, Category 2: H225 Highly flammable liquid and vapour
Self-Reactive Substances and Mixtures, Type G
H290-Corrosive to metals, Category 1: H290 May be corrosive to metals
H302-Acute toxicity, Category 4: H302 Harmful if swallowed
H331-Acute toxicity, Category 3: H331 Toxic if inhaled
H315-Skin corrosion/irritation, Category 2: H315 Causes skin irritation
H318-Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage
H350-Carcinogenicity, Category 1B: H350 May cause cancer
H370-STOT – single exposure, Category 1: H370 Causes damage to organs
H371-STOT – single exposure, Category 2: H371 May cause damage to organs
H336-STOT – single exposure, Category 3, Narcotic effects: H336 May cause drowsiness or dizziness.
H372-STOT – Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure
H373-STOT – Repeated exposure, Category 2: H373 May cause damage to organs through prolonged or repeated exposure
H401-Hazardous to the aquatic environment, short-term (acute), Category 2: H401 Toxic to aquatic life

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)
IATA Dangerous Goods Regulations (66th Edition) 2025
2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2025 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2024 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 4.33 (<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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).