Date of issue for the 1st edition : 02/Oct/2026

Safety Data Sheet

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

Product identifier:

Product name: Pyrrole

Reference number(SDS):60330jis_J_E1-1

Product type :

Reagent

Recommended use of the chemical and restrictions on use

Recommended uses: Research and Development

Restrictions on uses: 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

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 3

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

Label elements

Hazard pictograms:



Signal word: Warning

Hazard statements

H226-Flammable liquid and vapor

Precautionary statements

Prevention

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

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3. Composition/information on ingredients

Substance/mixture:

Substance

Ingredient name:Pyrrole

Content (%):98.0 <

Chemical formula:C4H5N

ENCS:5-100

CAS No.:109-97-7

MW:67.09

EC No.:203-724-7

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

Section 4. First aid measures

Descriptions of first aid measures

General measures

Keep victim warm and quiet.

Call emergency medical service.

IF INHALED

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Give artificial respiration if victim is not breathing.

Administer oxygen if breathing is difficult.

IF INHALED: Get medical help.

IF ON SKIN

IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.

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 help.

Remove and isolate contaminated clothing and shoes.

IF IN EYES

IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical help.

IF SWALLOWED

Rinse mouth.

IF SWALLOWED: Get medical help.

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

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

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

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

Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not use direct water jet.

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

Special extinguishing method

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

Personal 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.

Environmental precautions

Runoff to sewer may create fire or explosion hazard.
Vapor explosion hazard indoors, outdoors or in sewers.
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.

Preventive measures for secondary accident

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.

Reference to other sections

Refer to section 8
Refer to section 13

Section 7. Handling and storage

Handling

Engineering measures

(Measures to prevent operator exposure)

Avoid breathing dust/fume/gas/mist/vapors/spray.

(Measures to prevent 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.

(Local ventilation/general ventilation)

Exhaust/ventilator should be available.

(Precautions)

Avoid contact with skin.
Avoid contact with eyes.

Advice on safe handling

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

Avoidance of contact

See Section 10: Stability and Reactivity.

Advice on general occupational hygiene

Do not get in eyes, on skin, or on clothing.
Do not eat, drink or smoke when using this product.

Storage

Conditions for safe storage

Keep container tightly closed.
Keep cool.
Store in accordance with local/regional/national/international regulations.
Protect from sunlight. Store in a well-ventilated place.

Incompatible substances

Refer to Section 10. Stability and reactivity.

Container and packaging materials for safe handling data is not available.

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

Permissible concentration

Control value and Concentration standard value under ISHA

Not established

Occupational exposure limit values

JSOH

Not established

ACGIH

Not established

Appropriate engineering controls

Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Personal protective equipment

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, 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/face protection

Wear chemical safety goggle.
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～Dark yellow

Odor: Characteristic odor

Odor threshold data is not available.

Melting point/Freezing point: -24℃

Boiling point or initial boiling point and boiling range: 131℃

Flammability: Ignitable

Lower and upper explosion limit:

Lower explosion limit: 3.10 vol %

Upper explosion limit: 14.8 vol %

Flash point: 39℃(Closed cup)

Auto-ignition temperature: 550℃

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 45g/liter

Solubility in solvent: Freely soluble in alcohol and ether.

Partition coefficient n-octanol/water data is not available.

Vapor pressure: 8.7 hP(20℃)

Density and/or relative density: 0.970～0.975(20/20℃)

Relative vapor density (Air=1): 2.31

Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.01

Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Reactivity data is not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Possibility of hazardous reactions data is not available.

Conditions to avoid

Avoid direct sunlight, fire, flame, high temperature.

Contact with incompatible materials.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

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

[Data for components of the product]

No data available.

Acute toxicity (Dermal)

[Product]

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

[Data for components of the product]

No data available.

Acute toxicity (Inhalation)

[Product]

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

[Data for components of the product]

No data available.

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]

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

[Data for components of the product]

No data available.

Respiratory or skin 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]

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 – single exposure

[Product]

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

[Data for components of the product]

No data available.

Specific target organ toxicity – repeated exposure

[Product]

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

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

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

[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]
Fish (Pimephales promelas) 96-hour LC50: 210 mg/L (source: NITE)

Water solubility

[Data for components of the product]
45 g/L (source: NITE)

Persistence and degradability
Persistence and degradability data is not available.

Bioaccumulative potential
Bioaccumulative potential data is not available.

Mobility in soil
Mobility in soil data is not available.

Other adverse effects
Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Waste from residues
Disposal should be in accordance with local, national, and international laws and regulations.
Comply with relevant laws and regulations as well as local municipal standards.
Do not dump into sewers, on the ground or into any body of water.

Contaminated packing
Disposal should be in accordance with local, national, and international laws and regulations.
Comply with relevant laws and regulations as well as local municipal standards.
Dispose of container after using the contents completely.

Section 14. Transport Information

UNRTDG
UN Number : UN1993
UN Proper Shipping Name : FLAMMABLE LIQUID, N.O.S.
Transport hazard class(es) :3
Packing group :III
Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)
UN number : UN1993
UN Proper Shipping Name : FLAMMABLE LIQUID, N.O.S.
Transport hazard class(es) : 3
Packing group : III

Special provisions No.: 223; 274; 955

IATA (Dangerous Goods Regulations)

UN number : UN1993

UN Proper Shipping Name : FLAMMABLE LIQUID, N.O.S.

Transport hazard class(es) : 3

Hazard labels : Flamm. liquid

Packing group : III

Special provisions No.: A3

Marine pollutants (yes/no) : no

Special precautions for user

No information available.

Maritime transport in bulk according to IMO instruments

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

ERG GUIDE No.: 128

Section 15. Regulatory Information

Applicable laws and regulations

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

Chemicals listed in TSCA Inventory

109-97-7

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

H226-Flammable liquids, Category 3: H226 Flammable liquid and vapor

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 (67th Edition) 2026

2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2026 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2025

JIS Z 7253 : 2025

Recommendation of occupational exposure limits (2024-2025) (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 4.39 (https://www.asahi-ghs.com/)

European Chemicals Agency ECHA CHEM Database (https://em.echa.europa.eu/)
National Institute of Technology and Evaluation NITE-CHRIP
(https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/systemTop)
GHS Classification Guidance for Enterprises 2019 Revised Edition (Ver. 2.1) (May. 2024, METI)

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists;
anh - anhydride;
ATE - Acute Toxicity Estimate;
BCF - Bioconcentration Factor;
BOD - Biochemical Oxygen Demand;
Cat. - Category;
Ceiling-C - Ceiling value;
COD - Chemical Oxygen Demand;
CSCL - Chemical Substances Control Law in Japan;
DSEN - Dermal Sensitization;
EC No. - The European Community number;
EC50 - Effective Concentration 50;
ENCS - Existing and New Chemical Substances Inventory under CSCL
EPA - US Environmental Protection Agency;
EU - European Union;
GHS - Globally Harmonized System of Classification and Labelling of Chemicals;
IARC - International Agency for Research on Cancer;
IATA - International Air Transport Association;
IBC Code - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IMDG Code - International Maritime Dangerous Goods Code;
ISHA - Industrial Safety and Health Act in Japan;
JSOH - Japan Society for Occupational Health;
LC50 - Lethal Concentration 50;
LD50 - Lethal Dose 50;
logPow - n-Octanol/water Partition Coefficient;
MARPOL - International Convention for the Prevention of Pollution from Ships;
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
NOEC - No Observed Effect Concentration;
NTP - US National Toxicology Program;
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No.1907/2006;
RSEN - Respiratory Sensitization;
Skin - Danger of cutaneous absorption;
STEL - Short-term Exposure Limit;
STOT - Specific target organ toxicity;
SVHC - Substance of Very High Concern under REACH;
TWA - time-weighted average;
UN - United Nations;
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods;

General Disclaimer

The information relates to this specific material. It may not be valid for this material, if used in combination with any other materials or in any process. It is the user's responsibility to satisfy him-selves as to the suitability and completeness of this information for his own particular use.
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 FY2024).