Date of issue for the 1st edition : 13/Aug/2014
Date of revision : 01/Aug/2025

Safety Data Sheet

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

Product identifier:
- Product name: Naphthalene
- Reference number(SDS):51065jis_E-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

PHYSICAL AND CHEMICAL HAZARDS
- Flammable solids: Category 2

HEALTH HAZARDS
- Acute toxicity (Oral): Category 4
- Serious eye damage/eye irritation: Category 2B
- Skin sensitization: Category 1
- Carcinogenicity: Category 2
- Specific target organ toxicity - single exposure: Category 1 (blood, eye, respiratory tract)
- Specific target organ toxicity - repeated exposure: Category 1 (blood, eye, respiratory organs)

ENVIRONMENT HAZARDS
- Hazardous to the aquatic environment, short-term (acute): Category 1
- Hazardous to the aquatic environment, long-term (chronic): Category 2

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

Label elements

Signal word: Danger

HAZARD STATEMENT
- H228-Flammable solid
- H302-Harmful if swallowed
- H320-Causes eye irritation
- H317-May cause an allergic skin reaction
- H351-Suspected of causing cancer
- H370-Causes damage to organs
- H372-Causes damage to organs through prolonged or repeated exposure
- H400-Very toxic to aquatic life

H411-Toxic to aquatic life with long lasting effects

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.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash contaminated parts thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
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 water mist, foam, dry powder, CO2 to extinguish.
Collect spillage.
Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
IF exposed or concerned: Call a POISON CENTER/doctor/physician.
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.
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.

Storage

Store locked up.

Disposal

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

Specific Physical and Chemical hazards

Flammable solid. Vapor/air mixture may explode.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Naphthalene
Content (%):100
Chemical formula:C10H8
ENCS:4-311
CAS No.:91-20-3
MW:128.17
EC No.:202-049-5

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.
Keep victim warm and quiet.
Call emergency medical service.

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: 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.

Remove and isolate contaminated clothing and shoes.

Removal of solidified molten material from skin requires medical assistance.

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. Do NOT induce vomiting.

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)

Headache. Weakness. Sweating. Nausea. Vomiting. Abdominal pain. Diarrhoea. Sweating.

Headache. Fever. Jaundice. Dark-coloured urine.

※Symptoms may be delayed when ingestion.

(Symptoms when skin and/or eye contact)

Conjunctival redness of the eyes

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 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

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.
Do not touch or walk through spilled material.

Environmental precautions

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

Methods and materials for containment and cleaning up

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Preventive measures for secondary accident

Collect spillage.
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 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.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Precautions)

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.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
When using do not eat, drink or smoke.
May be ignited by friction, heat, sparks or flames.
Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.

Any incompatibilities

Strong oxidizing agents 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.
Store locked up.

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 under ISHA

Japan control value　10ppm

Occupational Exposure Limit

JSOH

Not established

ACGIH

TWA: 10ppm (URT irr; cataracts; hemolytic anemia)

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：Dust mask or Gas mask

Hand protection

Wear protective gloves. Recommended material(s): nitrile, 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 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: Solid in various forms

Color: White

Odor: Characteristic odor

Odor threshold: <0.3ppm

Melting point/Freezing point: 80℃

Boiling point or initial boiling point: 218℃

Boiling range data is not available.

Flammability: Ignitable

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 0.9 vol %

Upper explosion limit: 5.9 vol %

Flash point: 80℃(Closed cup)
Auto-ignition temperature: 540℃
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: 31 mg/L (25℃)
Solubility in solvent: Very soluble in ether.
Partition coefficient n-octanol/water: log Pow3.35
Vapor pressure: 11 Pa (25℃)
Density and/or relative density: 1.16 g/cm3
Relative vapor density (Air=1): 4.42
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.
Slowly sublimes at room temperature.
Possibility of hazardous reactions
Dust explosion possible if in powder or granular form, mixed with air.
Reacts with strong oxidants.
Conditions to avoid
Contact with incompatible materials.
Open flames. Heating. Sparks.
Incompatible materials
Strong oxidizing agents
Hazardous decomposition products
Carbon oxides

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: 1110 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: > 2000 mg/kg (source: NITE)
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]
Based on available data, the classification criteria are not met.
[Data for components of the product]
[NITE-CHRIP]
Not classified (source: NITE)
Serious eye damage/irritation
[Product]
Category 2B, Causes eye irritation
[Data for components of the product]
[NITE-CHRIP]
Category 2B (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]
Category 1, May cause an allergic skin reaction
[Data for components of the product]
[NITE-CHRIP]
Category 1 (source: NITE)
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 2, Suspected of causing cancer
[Data for components of the product]
[NITE-CHRIP]
Category 2 (source: NITE)
[IARC]
Group 2B : Possibly carcinogenic to humans
[ACGIH]
A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans
[EPA]
CBD; Carcinogenic potential cannot be determined(1996)
[JSOH]
Group 2B: The agents which are probably or possibly carcinogenic to humans
[NTP]
RAHC : Reasonably Anticipated to be Human Carcinogens
[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
[Data for components of the product]
[NITE-CHRIP]
Category 1 (blood, eyes, respiratory tract) (source: NITE)
STOT-repeated exposure
[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure
[Data for components of the product]
[NITE-CHRIP]
Category 1 (blood, eyes, respiratory 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 1, Very toxic to aquatic life
Category 2, Toxic to aquatic life with long lasting effects
[Data for components of the product]
Hazardous to the aquatic environment, short-term (acute)
[NITE-CHRIP]
Fish (Rainbow trout) 96-hour LC50: 1.6 mg/L (source: NITE)
Crustacea (Neomysis americana) 96-hour LC50: 0.8 mg/L (source: NITE)
Hazardous to the aquatic environment, long-term (chronic)
[NITE-CHRIP]
Fish (Oncorhynchus kisutch) 40-day NOEC: 0.12 mg/L (source: NITE)
Crustacea (Daphnia magna) 28-day NOEC: 3 mg/L (source: NITE)
Water solubility
[Data for components of the product]
31 mg/L (25℃) (source: : HSDB; PHYSPROP Database)
Persistence and degradability
[Data for components of the product]
Not rapidly degradable (Degradation rate: 2% (by BOD)) (Guidelines specified by CSCL, GLP) (source: NITE)
Bioaccumulative potential
[Data for components of the product]
log Pow: 3.35 (source: ICSC, 2015)
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 : 1334

UN Proper Shipping Name : NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED

Class or division (Transport hazard class) : 4.1

Packing group : III

ERG GUIDE No.: 133

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1334

UN Proper Shipping Name : NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED

Class or division (Transport hazard class) : 4.1

Packing group : III

Special provisions No.: 948; 967

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1334

UN Proper Shipping Name : NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED

Class or division (Transport hazard class) : 4.1

Hazard labels : Flamm. solid

Packing group : III

Special provisions No.: A803

Environmental hazards

Marine pollutants (yes/no) : yes

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

Noxious Liquid Substances ; Cat. X

Naphthalene

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

Specific target organ toxicity - repeated exposure: cat.1

Naphthalene

Hazardous to the aquatic environment - short-term (acute): cat.1

Naphthalene

Hazardous to the aquatic environment - long-term (chronic): cat.1, 2

Naphthalene

Section 15. Regulatory Information

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

Mutagenic Chemical Substances [MHLW_J Notice]

Naphthalene

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

Chemicals listed in TSCA Inventory

91-20-3

All components are listed or exempted.

Superfund Amendments and Reauthorizations Act (SARA), Title III

SARA 313 (TRI)

Naphthalene

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

H228-Flammable solids, Category 2: H228 Flammable solid

H302-Acute toxicity, Category 4: H302 Harmful if swallowed

H320-Serious eye damage/eye irritation, Category 2B: H320 Causes eye irritation

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

H351-Carcinogenicity, Category 2: H351 Suspected of causing cancer

H370-STOT - single exposure, Category 1: H370 Causes damage to organs

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

H400-Hazardous to the aquatic environment, short-term (acute), Category 1: H400 Very toxic to aquatic life

H411-Hazardous to the aquatic environment, long-term (chronic), Category 2: H411 Toxic to aquatic life with long lasting effects

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

Recommendation of occupational exposure limits (2023-2024) (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 4.34 (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).