Date of issue: 2017/07/20
Date of revision: 2026/09/16

Safety Data Sheet

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

Product identifier:
- Product name: Di-n-butyl phthalate
- SDS No. : 2244E-4

Recommended use of the chemical and restrictions on use
- Research and Development

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
- Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
- Division: Chemical Safety Management Department
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607

Section 2. Hazards identification

Classification of the substance or mixture
- HEALTH HAZARDS
  - Skin sensitization: Category 1
  - Reproductive toxicity: Category 1B
  - Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)
  - Specific target organ toxicity - repeated exposure: Category 1 (respiratory system)
- 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
- Hazard pictograms:



- Signal word: Danger
- Hazard statements
  - H317 May cause an allergic skin reaction
  - H360 May damage fertility or the unborn child
  - H335 May cause respiratory irritation
  - H372 Causes damage to organs through prolonged or repeated exposure (respiratory system)
  - H400 Very toxic to aquatic life
  - H411 Toxic to aquatic life with long lasting effects
- Precautionary statements
  - Prevention
    - P203 Obtain, read and follow all safety instructions before use.
    - P273 Avoid release to the environment.
    - P260 Do not breathe dust/fume/gas/mist/vapors/spray.
    - P271 Use only outdoors or in a well-ventilated area.
    - P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do not eat, drink or smoke when using this product.

Response

P391 Collect spillage.
P318 IF exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P317 If skin irritation or rash occurs: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Specific danger/hazard

Health hazard

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Substance/mixture:

Substance

Ingredient name	Content (%)	CAS RN	ENCS	Chemical formula
Di-n-butyl phthalate	≧98	84-74-2	3-1303	C6H4[COO(CH2)3CH3]2

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

Section 4. First aid measures

Descriptions of first aid measures

General measures

IF exposed or concerned, get medical advice.
Get medical help if you feel unwell.

IF INHALED

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Get emergency medical help immediately.
Get medical help if you feel unwell.

IF ON SKIN

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.
If experiencing skin: Get emergency medical help immediately.
If you observe unusual symptom, have irritation/pain and/or feel unwell, seek medical advice.

IF IN EYES

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

Rinse in order to better reach all parts of eyes.
Remove all chemicals from contact with the victim's eyes immediately. A delay of only seconds may increase the injury.
If experiencing eye: Get medical help.

IF SWALLOWED

Rinse mouth.
IF SWALLOWED: Get emergency medical help immediately.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.
*Fire Service Act Group 4 Hazardous Materials

Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System
Sprinkler System
Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Fire Extinguisher Discharging Jet Water/Spraying Water
Fire Extinguisher Discharging Jet Loaded Liquid
Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Water Bucket or Water Tank
*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

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

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

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

Solid: Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 7. Handling and storage

Handling

Engineering measures

(Measures to prevent operator exposure)

Do not breathe 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.

(Local ventilation/general ventilation)

Use adequate general or local exhaust ventilation.

(Precautions)

Avoid contact with skin.

Avoid contact with eyes.

Advice on safe handling

Obtain, read and follow all safety instructions before use.

Use only outdoors or in a well-ventilated area.

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

Wash hands and contaminated parts thoroughly after handling.

When using do not eat, drink or smoke.

Avoidance of contact

See Section 10: Stability and Reactivity.

Advice on general occupational hygiene

Wash hands thoroughly after handling. Do not touch eyes.

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

Keep container tightly closed.

Store locked up. (P405)

Store in a cool, dry place. Do not store in direct sunlight.

Storage in accordance with local/national regulation.

Safe packaging material

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Permissible concentration

Administrative Control Levels and Concentration standard value

Concentration standard value TWA: 0.5mg/m3

Occupational exposure limit values

The Japan Society for Occupational Health

5mg/m3

ACGIH

TWA: 5mg/m3 (Testicular dam; eye & URT irr)

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Washing facilities should be available.

Personal protective equipment

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials as needed.

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 as needed.

Eye/face protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

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

Physical state: Liquid

Color: Colorless to yellow

Odor: Practically odorless to characteristic odor

Melting point/Freezing point: −35℃

Boiling point or initial boiling point and boiling range: (Di-n-butyl phthalate)340℃

Flammability data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: (235℃) 0.5 vol %

Upper explosion limit: (235℃) 2.5 vol %

Flash point: (Di-n-butyl phthalate)(C.C.) 157℃

Auto-ignition temperature: (Di-n-butyl phthalate)402℃

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 0.001 g/100 ml (25℃)

Solubility in solvent data is not available.

Partition coefficient n-octanol/water (log value): 4.72

Vapor pressure: < 0.01 kPa (20℃)

Density and/or relative density: 1.05

Relative vapor density (Air=1): 9.58

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

Particle characteristics data is not available.

Other information

Other information is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

As a result of flow, agitation, etc., electrostatic charges can be generated.
Decomposes on burning. This produces toxic and irritating fumes (phthalic anhydride).
Reacts with strong oxidants. (ICSC 0036)

Conditions to avoid

Contact with incompatible materials.
Contact with fire source.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Phthalic anhydride

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIP]

rat LD50: 6300 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]

rabbit LD50: > 20000 mg/kg (source: NITE)

Acute toxicity (Inhalation)

[Data for components of the product]

[NITE-CHRIP]

mist: rat LC50: >= 15.68 mg/L (source: NITE)

Skin corrosion/irritation data is not available.

Serious eye damage/irritation data is not available.

Respiratory or skin sensitization

Skin sensitization

[Product]

Category 1, May cause an allergic skin reaction

[Data for components of the product]

[NITE-CHRIP]

Category 1 (source: NITE)

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity

[Product]
Category 1B, May damage fertility or the unborn child
[Data for components of the product]
[NITE-CHRIP]
Category 1B (source: NITE)

Specific target organ toxicity - single exposure
[Product]
Category 3, May cause respiratory irritation
[Data for components of the product]
[NITE-CHRIP]
Category 3 (Respiratory tract irritation) (source: NITE)

Specific target organ toxicity - repeated exposure
[Product]
Category 1, Causes damage to organs through prolonged or repeated exposure
[Data for components of the product]
[NITE-CHRIP]
Category 1 (respiratory system) (source: NITE)

Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity

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]
Algae (Pseudokirchneriella subcapitata) 96-hour EC50: 0.4 mg/L (source: NITE)
Hazardous to the aquatic environment, long-term (chronic)
[NITE-CHRIP]
Fish (Oncorhynchus mykiss) 99-day NOEC: 0.1 mg/L (source: NITE)

Water solubility
0.001 g/100 mL (25℃) (source: ICSC, 2002)

Persistence and degradability
[Data for components of the product]
Rapidly degradable (Degradation rate: 69% (by BOD)) (source: NITE)

Bioaccumulative potential
[Data for components of the product]
log Pow: 4.72 (source: ICSC, 2002)

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, Contaminated packing
Avoid release to the environment.

Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UNRTDG
- UN number : UN3082
- UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Transport hazard class(es) : 9
- Packing group : III

IMDG Code (International Maritime Dangerous Goods Regulations)
- UN number : UN3082
- UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Transport hazard class(es) : 9
- Packing group : III

IATA (Dangerous Goods Regulations)
- UN number : UN3082
- UN Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
- Transport hazard class(es) : 9
- Hazard labels : Miscellaneous & Environmentally hazardous
- Packing group : III

Marine pollutants (yes/no) : yes
ERG GUIDE No.: 171

Section 15. Regulatory Information

Applicable laws and regulations

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

Chemicals listed in TSCA Inventory

Applicable

Other regulatory information

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

Section 16. Other information

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)
Supplier's data/information

General Disclaimer

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Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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).