Date of issue: 12/06/2017
Date of revision: 08/05/2020

Safety Data Sheet

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

Product identifier:
- Product name: Biphenyl
- SDS No. : 0885E-2

Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
- Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
- Division: Safety Management Dept. of Chemicals
- Telephone number: +81-6-6946-8061
- FAX: +81-6-6946-1607
- e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS
- Serious eye damage/eye irritation: Category 2B
- Carcinogenicity: Category 1B
- Specific target organ toxicity - repeated exposure: Category 1(liver; nerve/nervous system; respiratory apparatus)
- Specific target organ toxicity - repeated exposure: Category 2(kidney)

ENVIRONMENT HAZARDS
- Hazardous to the aquatic environment (Acute): Category 1

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

Label elements

Signal word: Danger

HAZARD STATEMENT
- Causes eye irritation
- May cause cancer
- Causes damage to organs through prolonged or repeated exposure(liver; nerve/nervous system; respiratory apparatus)
- May cause damage to organs through prolonged or repeated exposure(kidney)
- Very toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention
- Avoid release to the environment.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash contaminated parts thoroughly after handling.
- Do not eat, drink or smoke when using this product.

Response
- Collect spillage.
- Get medical advice/attention if you feel unwell.
- IF exposed or concerned: 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.

Disposal

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

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Biphenyl
Content (%):98(min)
Chemical formula:C6H5C6H5
Chemicals No, Japan:4-13
CAS No.:92-52-4
MW:154.21
ECNO:202-163-5

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

4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
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.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

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

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

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

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

Preventive measures for secondary accident

Collect spillage.

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/sparks/open flames/hot surfaces. - 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 or face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

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

Storage

Conditions for safe storage

Keep container tightly closed.

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

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Adopted value

(Biphenyl)

ACGIH(1979) TWA: 0.2ppm (Pulm func)

OSHA-PEL

BiphenylTWA: 0.2ppm, 1mg/m3

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
Wear respiratory protection.
Hand protection
Wear protective gloves.
Eye protection
Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties
Physical state: Crystal
Color: Colorless to white
Odor: Characteristic odor
pH data is not available.
Boiling point or initial boiling point: 256℃
Boiling range data is not available.
Melting point/Freezing point: 70℃
Decomposition temperature data is not available.
Flammability (gases, liquids and solids) data is not available.
Flash point: (Biphenyl)(C.C.) 113℃
Auto-ignition temperature: 540℃
Lower and upper explosion limit/flammability limit:
Lower explosion limit: (111℃) 0.6 vol %
Upper explosion limit: (166℃) 5.8 vol %
Vapor pressure: 1.19 Pa (25 ℃)
Relative vapor density (Air=1): 5.3
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1
Density and/or relative density: 1.04
Kinematic viscosity data is not available.
Solubility:
Solubility in water: 0.0004g/100 ml (20 ℃)
n-Octanol/water partition coefficient: log Pow3.16/4.09
No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
Dust explosion possible if in powder or granular form, mixed with air.
Reacts with oxidants. (ICSC 0106)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Oxidizing agents
Hazardous decomposition products
Carbon oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Biphenyl)

rat LD50=2400mg/kg (ACGIH 7th, 2001)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Biphenyl)

rabbit LD50=2500mg/kg (CERI hazard data, 1999)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Biphenyl)

rabbit mild irritation (CICAD 6, 1999)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[GHS Cat. Japan, base data]

(Biphenyl)

cat.1B; (MHLW carcinogenicityity examination, 1996)

Reproductive toxicity data is not available.

STOT

STOT-single exposure data is not available.

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Biphenyl)

liver; nerve/nervous system; respiratory apparatus (ACGIH 7th, 2001)

[cat.2]

[GHS Cat. Japan, base data]

(Biphenyl)

kidney (CICAD 6, 1999)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Biphenyl)

Crustacea (Daphnia magna) LC50=0.36mg/L/48hr (MOE Japan, 2002)

Water solubility

(Biphenyl)

0.0004g/100 ml (20℃) (ICSC, 2006)

Persistence and degradability

(Biphenyl)

BOD_Degradation : 66% (Registered chemicals data check & review)

Bioaccumulative potential

(Biphenyl)
log Pow=3.98 (PHYSPROP DB, 2005)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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 (– if this is not the intended use).
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No.: 3077
Proper Shipping Name :
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class or division : 9
Packing group : III
ERG GUIDE No.: 171
Special provisions No.: 274; 331; 335; 375

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 3077
Proper Shipping Name :
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class or division : 9
Packing group : III
Special provisions No.: 274; 335; 966; 967; 969

IATA Dangerous Goods Regulations

UN No.: 3077
Proper Shipping Name :
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Class or division : 9
Hazard labels : Miscellaneous & Environmentally hazardous
Packing group : III
Special provisions No.: A97; A158; A179; A197

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Carcinogenicity: cat.1, 1A, 1B
Biphenyl
Specific target organ toxicity – repeated exposure: cat.1
Biphenyl
Hazardous to the aquatic environment – acute hazard: cat.1
Biphenyl

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. X
Biphenyl

15. Regulatory Information

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

US Federal Regulations

Chemicals listed in TSCA Inventory

Biphenyl

Other regulatory information

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

16. Other information

GHS classification and labelling

Eye Irrit. 2B: H320 Causes eye irritation

Carc. 1B: H350 May cause cancer

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Aquatic Acute 1: H400 Very toxic to aquatic life

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2019 TLVs and BEIs. (ACGIH)

http://monographs.iarc.fr/ENG/Classification/index.php

Supplier's data/information

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 2018).