SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Biphenyl
Catalog Number : io-1828
CAS Number : 92-52-4
Identified uses : Laboratory chemicals, manufacture of chemical compounds
Company : Ionz

>> R&D Use only

2. Hazards Identification

GHS Classification:

Flammable liquid (category 2)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Acute toxicity, inhalation (Category 3)
Specific target organ toxicity, single exposure (Category 1)

Pictogram(s)

GHS Hazard Statements

>> H315 (> 99.9%): Causes skin irritation [Warning Skin corrosion/irritation]

>> H319 (> 99.9%): Causes serious eye irritation [Warning Serious eye damage/eye irritation]

>> H330 (35.8%): Fatal if inhaled [Danger Acute toxicity, inhalation]

>> H335 (> 99.9%): May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract irritation]

>> H400 (91.6%): Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]

>> H410 (100%): Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]

Precautionary Statement Codes

>> P260, P261, P264, P264+P265, P271, P273, P280, P284, P302+P352, P304+P340, P305+P351+P338, P316, P319, P320, P321, P332+P317, P337+P317, P362+P364, P391, P403+P233, P405, and P501

NFPA 704 Diamond

NFPA Health Rating

>> 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA Fire Rating

>> 1 - Materials that must be preheated before ignition can occur. Materials require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur.

NFPA Instability Rating

>> 0 - Materials that in themselves are normally stable, even under fire conditions.

Health Hazards:

>> CALL FOR MEDICAL AID. VAPOR, MIST OR DUST: Irritating to eyes, nose, throat and skin. Flush affected area with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. SOLID OR LIQUID: Irritating to skin and eyes, nose and throat. Remove contaminated clothing and shoes. Flush affected areas with plenty water. IF IN EYES, hold eyelids open and flush with plenty of water. If swallowed, do not induce vomiting. Harmful if inhaled or swallowed. Causes irritation to eyes, skin and mucous membrane and upper respiratory tract. Causes central nervous system depression, paralysis and convulsion in animals. May cause headache, diffuse gastrointestinal pain, nausea, indigestion, numbness and aching of limbs, and general fatigue. Liver function test may show abnormalities. Chronic exposure is mostly characterized by central nervous system symptoms, fatigue, headache, tremor, insomnia, sensory impairment, and mood changes. Such symptoms are rare however. (USCG, 1999)

>> Combustible. Emits toxic fumes under fire conditions. (USCG, 1999)

>> Combustible. Finely dispersed particles form explosive mixtures in air.

3. Composition/Information On Ingredients

Chemical name : Biphenyl
CAS Number : 92-52-4
Molecular Formula : C12H10
Molecular Weight : 154.2100 g/mol

4. First Aid Measures

First Aid:

>> EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop.

>> SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. If symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop, call a physician and be prepared to transport the victim to a hospital. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing.

>> INGESTION: DO NOT INDUCE VOMITING. If the victim is conscious and not convulsing, give 1 or 2 glasses of water to dilute the chemical and IMMEDIATELY call a hospital or poison control center. Be prepared to transport the victim to a hospital if advised by a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. (NTP, 1992)

First Aid Measures

Inhalation First Aid

>> Fresh air, rest. Refer for medical attention.

Skin First Aid

>> Remove contaminated clothes. Rinse and then wash skin with water and soap.

Eye First Aid

>> Rinse with plenty of water for several minutes (remove contact lenses if easily possible).

Ingestion First Aid

>> Rinse mouth. Refer for medical attention .

5. Fire Fighting Measures

>> Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

>> CAUTION: Fire involving Safety devices (UN3268) and Fire suppressant dispersing devices (UN3559) may have a delayed activation and a risk of hazardous projectiles. Extinguish the fire at a safe distance.

>> SMALL FIRE: Dry chemical, CO2, water spray or regular foam.

>> LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high-pressure water streams. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal.

>> FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. (ERG, 2024)

>> Use water spray, foam, powder, carbon dioxide.

6. Accidental Release Measures

Isolation and Evacuation:

Isolation and evacuation measures to take when a large amount of this chemical is accidentally released in an emergency.

>> Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

>> IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

>> SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

>> FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Spillage Disposal:

Methods for containment and safety measures to protect workers dealing with a spillage of this chemical.

>> Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

7. Handling And Storage

Safe Storage:

>> Separated from food and feedstuffs and oxidants. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

Storage Conditions:

>> Materials... toxic as stored or which can decompose into toxic components... should be stored in a cool... ventilated place, out of... sun, away from fire hazard... /and/ be periodically inspected. ...Incompatible materials should be isolated...

8. Exposure Control/ Personal Protection

REL-TWA (Time Weighted Average)

>> 0.2 ppm (1 mg/m³)

>> TWA 1 mg/m3 (0.2 ppm)

>> 0.2 [ppm]

PEL-TWA (8-Hour Time Weighted Average)

>> 0.2 ppm (1 mg/m³)

>> 0.2 [ppm]

>> 0.2 ppm as TWA.

TLV-TWA (Time Weighted Average)

>> 0.2 ppm [1979]

MAK (Maximale Arbeitsplatz Konzentration)

>> skin absorption (H); carcinogen category: 3

Inhalation Risk:

>> A harmful concentration of airborne particles can be reached quickly when dispersed.

Effects of Short Term Exposure:

>> The substance is irritating to the eyes, skin and respiratory tract.

Effects of Long Term Exposure:

>> The substance may have effects on the liver and nervous system. This may result in impaired functions.

Fire Prevention

>> NO open flames. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Prevent build-up of electrostatic charges (e.g., by grounding).

Exposure Prevention

>> PREVENT DISPERSION OF DUST!

Inhalation Prevention

>> Avoid inhalation of dust and mist. Use local exhaust or breathing protection.

Skin Prevention

>> Protective gloves.

Eye Prevention

>> Wear safety goggles or eye protection in combination with breathing protection if powder.

Ingestion Prevention

>> Do not eat, drink, or smoke during work. Wash hands before eating.

9. Physical And Chemical Properties

Molecular Weight:

>> 154.21

Exact Mass:

>> 154.078250319

Physical Description:

>> Biphenyl appears as a clear colorless liquid with a pleasant odor. Flash point 180 °F. Insoluble in water. Vapors are heavier than air. Used to manufacture other chemicals and as a fungicide.

>> WHITE CRYSTALS OR FLAKES WITH CHARACTERISTIC ODOUR.

Color/Form:

>> White scales

Odor:

>> Pleasant, peculiar odor

Boiling Point:

>> 489 to 491 °F at 760 mmHg (NTP, 1992)

>> 256 °C

Melting Point:

>> 156 to 160 °F (NTP, 1992)

>> 70 °C

Flash Point:

>> 235 °F (NTP, 1992)

>> 113 °C c.c.

Solubility:

>> Insoluble (NTP, 1992)

>> Solubility in water, g/100ml at 20 °C: 0.0004

Density:

>> 0.992 at 68 °F (USCG, 1999) - Less dense than water; will float

>> Relative density (water = 1): 1.04

Vapor Density:

>> 5.31 (USCG, 1999) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 5.3

Vapor Pressure:

>> 0.005 mmHg (NIOSH, 2024)

>> Vapor pressure, Pa at 25 °C: 1.19

LogP:

>> log Kow = 4.01

>> 3.16/4.09

Stability/Shelf Life:

>> Very stable in acidic & alkaline media.

Autoignition Temperature:

>> 1004 °F (USCG, 1999)

>> 540 °C

Decomposition:

>> This substance decomposes on heating producing toxic gases, acrid smokes and fumes.

Viscosity:

>> 0.98 cSt at 100 °C

Heat of Combustion:

>> 624.3 kJ/mol

Heat of Vaporization:

>> 397.0 J/g at 100 °C

Ionization Potential:

>> 7.95 eV

Odor Threshold:

>> Odor Threshold Low: 0.01 [mmHg]

>> Odor Threshold High: 0.05 [mmHg]

>> Odor threshold from CHEMINFO

Refractive Index:

>> Index of refraction: 1.475 @ 20 °C/D; 1.588 @ 75 °C/D

10. Stability And Reactivity

>> Insoluble in water.

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION: Biphenyl is an aromatic hydrocarbon and it is a colorless solid at room temperature. It is used as an intermediate in the production of a variety of compounds such as: emulsifiers, optical brighteners, crop protection products and plastics, as a dyestuff carrier in textiles and copying paper, as a solvent in pharmaceutical production and in the preservation of citrus fruits. Biphenyl occurs naturally in coal tar, crude oil and natural gas. HUMAN EXPOSURE: Exposure to high levels of biphenyl vapors or dusts in the workplace results in the irritation of the eyes and inflammation of the respiratory tract. Long-term exposure for several years to high level biphenyl concentrations caused damage to the liver and persistent neuronal changes. Direct skin contact may have played a part, in addition to uptake through the respiratory tract. ANIMAL/PLANT STUDIES: Biphenyl was well absorbed through the gastrointestinal tract. In those species examined, the metabolites of biphenyl, mainly 4-hydroxybiphenyl, are excreted rapidly and almost exclusively in the urine. Acute oral toxicity is moderate. It is non-irritating to the skin and only slightly irritating to the eyes. There is no evidence of dermal sensitization. Subchronic exposure by inhalation caused bronchopulmonary changes, whereas long term toxicity studies following inhalation were not identified in literature. In toxicological studies in which rodents have been administered diets containing biphenyl for various periods of time, effects on the urinary system have often been reported. A marked increase of formation of calculi, hyperplasia and desquamation effects have been observed in the urinary tract of male rats administered diets containing biphenyl. An increase in the occurrence of calculi and squamous metaplasia within the urinary bladder of female rats has also been observed, but at lower incidence than males. In male mice fed a diet containing biphenyl developed simple hyperplasia and popular or nodular dysplasia of the urinary bladder. Effects on blood chemistry and hematological parameters have also been observed in animals administered biphenyl orally; these effects occur in male and female rats and mice at intakes over those associated with the development of effects in the urinary bladder of male rats administered biphenyl. For non-neoplastic effects the lowest observed level (LOEL) was based on the development of alterations in hematological parameters (i.e. decreased hemoglobin concentration and hematocrit) in rats fed diets containing biphenyl. In vitro studies with bacteria provided no evidence of mutagenic potential for biphenyl with Saccharomyces cerevisiae D7, gene mutation and mitotic recombination were observed with or without metabolic activation. However, genetic toxicology testing in mammalian cells produced positive results in the presence of metabolic activation and negative results in the absence of metabolic activation. In female mice there were slight increased incidences of benign and malignant liver tumors in animals receiving biphenyl in the diet for 2 yr. An increased incidence of bladder tumors was observed in male rats, but not in female rats or male or female mice, administered high levels of biphenyl. However, observations of an increased incidence of histopathological effects and the formation of calculi within the urinary bladder, in absence of bladder tumors in female rats administered biphenyl for 2 yr, lack of data identifying a direct association between calculi formation, regenerative hyperplasia of the urothelium, and the development of bladder tumors within individual male animals and (3) the potential genotoxicity of biphenyl could suggest that the development of bladder tumors in the male rats may not have been entirely due to the effects associated with the formation of calculi within the urinary bladder. This observation and the hepatocarcinogenicity in female mice raises some concerns with respect to the carcinogenicity of biphenyl. Available data on the reproductive toxicity of biphenyl are limited. Results from a 3 generation study in rats, in which adverse effects such as decreased fertility, litter size, growth rate were noted, there was no evidence that biphenyl induced reproductive or developmental effects. Biphenyl has weak bactericidal and fungistatic properties. In toxicity studies on organisms of four trophic levels, the lowest no observed effect concentration (NOEC) was reported for the most sensitive species, Daphnia magna.

EPA Provisional Peer-Reviewed Toxicity Values:

This section provides the EPA Provisional Peer-Reviewed Toxicity Values (PPRTVs) and links of related assessment documents.

Chemical Substance

>> 1,1\'-Biphenyl

Reference Dose (RfD), Subchronic

>> 1 x 10^-1 mg/kg-day

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> Suggestive evidence of carcinogenic potential

Last Revision

>> 2011

Evidence for Carcinogenicity:

Evidence that this chemical does or may cause cancer. The information here is collected from various sources by the Hazardous Substances Data Bank (HSDB).

>> Cancer Classification: Group D Not Classifiable as to Human Carcinogenicity

Carcinogen Classification:

This section provides the International Agency for Research on Cancer (IARC) Carcinogenic Classification and related monograph links. In the IARC Carcinogenic classification, chemicals are categorized into four groups: Group 1 (carcinogenic to humans), Group 2A (probably carcinogenic to humans), Group 2B (possibly carcinogenic to humans), and Group 3 (not classifiable as to its carcinogenicity to humans).

>> No indication of carcinogenicity (not listed by IARC). (L135)

Health Effects:

>> Exposure to diphenyl can cause necrosis in the liver and kidney, with regions of cirrhosis in liver; also, degenerative changes in heart muscle, damage to the central and peripheral nervous systems, as well as death can result from diphenyl poisoning (T48).

Exposure Routes:

>> The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

>> inhalation, skin absorption, ingestion, skin and/or eye contact

Inhalation Exposure

>> Cough. Nausea. Vomiting.

Skin Exposure

>> Redness.

Eye Exposure

>> Redness. Pain.

Ingestion Exposure

>> Further see Inhalation.

>> irritation eyes, throat; headache, nausea, lassitude (weakness, exhaustion), numb limbs; liver damage

Target Organs:

Organs that are affected by exposure to this chemical. Information in this section reflects human data unless otherwise noted.

>> Urinary

>> Eyes, respiratory system, liver, central nervous system

Cancer Sites:

The site in which cancer develops due to exposure to this compound. Cancers are casually referred to based on their primary sites (e.g., skin, lung, breasts, prostate, colon and rectum).

>> Hepatic

Adverse Effects:

An adverse effect is an undesired harmful effect resulting from a medical treatment or other intervention.

>> Neurotoxin - Other CNS neurotoxin

>> Occupational hepatotoxin - Primary hepatotoxins: the toxic effect to the liver is the principal adverse effect of the chemical.

Toxicity Data:

>> LD50: 3280 mg/kg (Oral, Rat) (T66) LD50: 2400 mg/kg (Oral, Rabbit) (T23) LD50: 2500 mg/kg (Dermal, Rabbit) (T59)

Treatment:

Treatment when exposed to toxin

>> Consider gastric lavage, after ingestion of a potentially life-threatening amount of poison if it can be performed soon after ingestion. In case of inhalation exposure, move patient to fresh air and monitor for respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer oxygen and assist ventilation as required. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. In case of eye exposure, irrigate exposed eyes with copious amounts of room temperature water for at least 15 minutes. I f the exposure occurred through dermal contact, remove contaminated clothing and wash exposed area thoroughly with soap and water. (T36)

Interactions:

>> Coadministration of biphenyl and KHCO3 in the diet of male rats for 13 weeks produced urine crystals... composed of the potassium salt of 4-hydroxy-biphenyl-O-sulfate (4-HBPOSK). Biphenyl alone or biphenyl with KCl or NaHCO3 in the diet did not produce urine crystals.

Antidote and Emergency Treatment:

>> Exposure treatment. Inhalation: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Ingestion: Do not induce vomiting. Skin: Wash with soap and copious amounts of water. Eyes: Flush with copious amounts of water for at least 15 min.

Human Toxicity Excerpts:

>> /CASE REPORTS/ One worker exposed repeatedly to concentrations as high as 123 mg/cu m for 10 years developed... neurological and gastric symptoms, severe ascites massive edema in the legs. ... Diffuse brain damage... serum transaminase levels were high. ...Coma and death ensued after one month. At autopsy... necrosis in the liver and kidney, with regions of cirrhosis in liver. Degenerative changes... in heart muscle. Brain was edematous and degeneration of ganglion cells was seen. Bone marrow appeared hyperactive with large numbers of immature white and red blood cell precursors.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ ... After single doses (LD50s) experimental animals (rats and rabbits) showed increased rate of respiration, lacrimation, anorexia and weight loss, muscular weakness, ataxia with death in coma occurring in from 2 hr to 18 days. ... Pathological findings include ... visceral congestion, myocarditis, hepatitis, nephritis ... pneumonia.

Non-Human Toxicity Values:

>> LD50 Rat oral 3280 mg/kg

TSCA Test Submissions:

Under the Toxic Substances Control Act (TSCA), EPA has broad authority to issue regulations designed to require manufacturers (including importers) or processors to test chemical substances and mixtures for health and environmental effects. This section provides information on test reports submitted for this chemical under TSCA.

>> The mutagenicity of 1,1'-biphenyl was evaluated in Salmonella tester strains TA1535, TA100, TA1538, TA98, TA1537 and TA1978 (Ames Test), both in the presence and absence of added rat liver S9 metabolic activation. 1,1'-Biphenyl was tested at concentrations up to 1.54mg/plate using the plate incorporation technique. 1,1'-Biphenyl did not cause a positive response in any of the tester strains with or without metabolic activation.

12. Ecological Information

Resident Soil (mg/kg)

>> 4.70e+01

Industrial Soil (mg/kg)

>> 2.00e+02

Resident Air (ug/m3)

>> 4.20e-01

Industrial Air (ug/m3)

>> 1.80e+00

Tapwater (ug/L)

>> 8.30e-01

MCL (ug/L)

>> 4.00e+00

Risk-based SSL (mg/kg)

>> 8.70e-03

Oral Slope Factor (mg/kg-day)-1

>> 8.00e-03

Chronic Oral Reference Dose (mg/kg-day)

>> 5.00e-01

Chronic Inhalation Reference Concentration (mg/m3)

>> 4.00e-04

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

ICSC Environmental Data:

>> The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur along the food chain, for example in plants. It is strongly advised not to let the chemical enter into the environment.

Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.

>> Biphenyl was detected in sediment from a small New England river at 1-2 mg/kg(1). It was also detected in sediments from Puget Sound, WA at 8.5-410 ug/kg(2) and Rhode Island Sound, RI at 5.5-22.9 ug/kg(3). Biphenyl was detected but not quantified in sediments of the Saguenay Fjord, Canada(4). The concn of biphenyl in sediment at a distance 10 m from an offshore multiwell platform in Gulf of Mexico was 43.5 ug/kg, was 46.9 ug/kg at a distance 25 m from the platform, and 0.3 ug/kg at a distance exceeding 25 m from the platform. No biphenyl was detected (detection limit, less than 5 ug/kg) in sediments from coastal estuarine sites(5). Biphenyl was detected in Casco Bay Maine sediments, collected in 1991, at concns ranging from <2 to 29 ppb dry weight(6). During the 1991 Louisianian Province Demonstration, sediments taken from the estuarine system contained biphenyl at 0-13 ppb(7). Biphenyl was detected in Dokai Bay, Japan, 1990, at unreported concns(8). Sediments taken from the Duwamish Waterway, Puget Sound, Washington, contained biphenyl at 33 ng/g dry weight(9).

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> Crayfish and sunfish, taken from three sampling locations on Five Mile Creek, Birmingham, AL, downstream from two coke manufacturing facilities, contained biphenyl at concns from 0.84 to 18.4 ug/kg and 4.81 to 10.1 ug/kg, respectively(1). Samples of blue mussels and flounder, collected from the Northern Baltic Sea in the summers of 1980-1981, contained biphenyl at unreported concns(2). 570 composite oyster samples, Crassostrea virginica, collected from up to 68 sites in the United States during 1986-1990, were found to contain biphenyl at unreported concns(3). 94% of bottom feeding and game fish from nearly 400 sites throughout the United States contained biphenyl at an average concn of 2.7 ng/g (max = 132 ng/g)(4).

Animal Concentrations:

Concentrations of this compound in animals.

>> The concn of biphenyl in brain tissue of manx shearwaters (Puffinus puffinus) obtained from an island off Scotland was 3 ug/kg(1).

13. Disposal Considerations

Spillage Disposal

>> Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

Disposal Methods

>> SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational exposure or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

>> The following wastewater treatment technologies have been investigated for biphenyl: concentration process: Activated carbon.

>> The following wastewater treatment technologies have been investigated for biphenyl: Concentration process: Resin adsorption.

>> Incineration: Package in paper cartons or dissolve in a flammable solvent (waste alcohols) and burn in an approved incinerator.

>> By making package of diphenyl in paper or other flammable material and burning in a suitable combustion chamber. By dissolving diphenyl in a flammable solvent (such as alc) and atomizing in a suitable combustion chamber.

14. Transport Information

DOT

Biphenyl
9
UN Pack Group: III
Reportable Quantity of 100 lb or 45

IATA

Biphenyl
9,
UN Pack Group: III

15. Regulatory Information

TSCA Requirements:

This section provides information on requirements concerning this chemical under the Toxic Substances Control Act (TSCA) of 1976. TSCA provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics and pesticides.

>> Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Biphenyl is included on this list.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: 1,1'-Biphenyl

REACH Registered Substance

>> Status: Active Update: 15-11-2022 https://echa.europa.eu/registration-dossier/-/registered-dossier/14948

New Zealand EPA Inventory of Chemical Status

>> Biphenyl: Does not have an individual approval but may be used under an appropriate group standard

16. Other Information

Toxic Combustion Products:

Toxic products (e.g., gases and vapors) produced from the combustion of this chemical.

>> It is combustible at high temperatures producing carbon dioxide and water when combustion is complete. Partial combustion produces carbon monoxide, smoke, soot, and low molecular weight hydrocarbons.

"The information provided is believed to be accurate but is not comprehensive and should be used as a reference. It reflects our current knowledge and is intended for safety guidance related to the product. This document does not constitute a warranty of the product's properties. Ionz is not responsible for any damages resulting from handling or contact with the product incorrectly."