SAFETY DATA SHEET

Updated on 26/09/2024

1. Material Identification

Product Name : Butyl benzyl phthalate
Catalog Number : io-1887
CAS Number : 85-68-7
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

>> H360 (> 99.9%): May damage fertility or the unborn child [Danger Reproductive toxicity]

>> H400 (> 99.9%): 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

>> P203, P273, P280, P318, P391, 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:

>> Prolonged contact with liquid causes some irritation of eyes and skin. (USCG, 1999)

>> Special Hazards of Combustion Products: Irritating vapors of unburned chemical may form in fires. (USCG, 1999)

>> Combustible. Gives off irritating or toxic fumes (or gases) in a fire.

3. Composition/Information On Ingredients

Chemical name : Butyl benzyl phthalate
CAS Number : 85-68-7
Molecular Formula : C19H20O4
Molecular Weight : 312.4000 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. IMMEDIATELY call a hospital or poison control center even if no symptoms (such as redness or irritation) develop. IMMEDIATELY transport the victim to a hospital for treatment after washing the affected areas.

>> INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of breath, or burning in the mouth, throat, or chest) develop. 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.

>> OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)

First Aid Measures

Inhalation First Aid

>> Fresh air, rest.

Skin First Aid

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

Eye First Aid

>> First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion First Aid

>> Rinse mouth.

5. Fire Fighting Measures

>> Poisonous gases are produced in fire.

>> 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 alcohol-resistant foam, powder, carbon dioxide, water spray.

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 vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

7. Handling And Storage

Safe Storage:

>> Store in an area without drain or sewer access. Separated from strong oxidants.

Storage Conditions:

>> Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

8. Exposure Control/ Personal Protection

MAK (Maximale Arbeitsplatz Konzentration)

>> (inhalable fraction): 20 mg/m

Inhalation Risk:

>> Evaporation at 20 °C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

Effects of Long Term Exposure:

>> Animal tests show that this substance possibly causes toxicity to human reproduction or development.

Fire Prevention

>> NO open flames.

Exposure Prevention

>> See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE. PREVENT GENERATION OF MISTS! AVOID EXPOSURE OF (PREGNANT) WOMEN!

Inhalation Prevention

>> Use ventilation, local exhaust or breathing protection.

Skin Prevention

>> Protective gloves.

Eye Prevention

>> Wear safety spectacles.

Ingestion Prevention

>> Do not eat, drink, or smoke during work.

Exposure Control and Personal Protection

Maximum Allowable Concentration (MAK)

>> 20.0 [mg/m3], inhalable fraction[German Research Foundation (DFG)]

9. Physical And Chemical Properties

Molecular Weight:

>> 312.4

Exact Mass:

>> 312.13615911

Physical Description:

>> Butyl benzyl phthalate appears as a clear colorless liquid with a mild odor. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.

>> COLOURLESS OILY LIQUID.

Color/Form:

>> Clear, oil liquid

Odor:

>> Slight odor

Taste:

The sensation of flavor perceived in the mouth and throat on contact with a substance.

>> Bitter

Boiling Point:

>> 698 °F at 760 mmHg (NTP, 1992)

>> 370 °C

Melting Point:

>> less than -31 °F (NTP, 1992)

>> -35 °C

Flash Point:

>> 390 °F (NTP, 1992)

>> 198 °C

Solubility:

>> less than 0.1 mg/mL at 72.5 °F (NTP, 1992)

>> Solubility in water, mg/l: 0.71 (very poor)

Density:

>> 1.12 at 68 °F (USCG, 1999) - Denser than water; will sink

>> Relative density (water = 1): 1.1

Vapor Density:

>> 10.8 (NTP, 1992) - Heavier than air; will sink (Relative to Air)

>> Relative vapor density (air = 1): 10.8

Vapor Pressure:

>> 8.6e-06 mmHg at 68 °F ; 1.9 mmHg at 392 °F (NTP, 1992)

>> Vapor pressure at 20 °C: negligible

LogP:

>> log Kow = 4.73

>> 4.77

Stability/Shelf Life:

>> Stable under recommended storage conditions.

Autoignition Temperature:

>> 451 °F (NTP, 1992)

>> 425 °C

Decomposition:

>> When heated to decomposition, it emits acrid smoke and irritating fumes.

Heat of Combustion:

>> -14,550 BTU/LB= -8,090 CAL/G= -338X10+5 JOULES/KG

Refractive Index:

>> Index of refraction: 1.535-1.540 at 25 °C/D

10. Stability And Reactivity

>> Slightly soluble in water and slightly denser than water.

11. Toxicological Information

Toxicity Summary:

>> IDENTIFICATION AND USE: Butyl benzyl phthalate (BBP) is a clear oily liquid that is used as a plasticizer mainly in polyvinyl chloride for vinyl floor tile, vinyl foams and carpet backing and in cellulose plastics and polyurethane. HUMAN EXPOSURE AND TOXICITY: BBP was not observed to be a primary irritant or sensitizer in skin patch tests with volunteers. Prenatal exposure to BBP may influence the risk of developing eczema in early childhood. BBP was also positively associated with airway inflammation in children. BBP was positive in E-Screen assay used to measure the proliferation of MCF-7 cells, a human breast cancer cell line. In another study proteomic changes in proteins secreted by human hepatocellular carcinomas (HepG2) cells exposed to BBP were evaluated. These proteins were found to be involved in apoptosis, signaling, tumor progression, energy metabolism, and cell structure and motility. BBP treatment of plasmacytoid DC cells suppressed IFN-gamma but enhanced IL-13 production by CD4+ T cells. ANIMAL STUDIES: The acute toxicity of this compound is low, with oral LD50 values in rats being greater than 2 g/kg body weight. Target organs following acute exposure include the hematological and central nervous systems. Repeated dose toxicity studies

of this compound in the rat show decreases in body weight gain and increases in organ to body weight ratios, particularly for the kidney and liver. Histopathological effects on the pancreas and kidney and hematological effects have also been observed. At higher doses, degenerative effects on the testes and, occasionally histopathological effects on the liver have been reported. In specialized investigations, peroximal proliferation in the liver has been noted. The chronic toxicity and carcinogenicity of BBP bioassays in rats and mice, indicated that there was some evidence of carcinogenicity in male rats, based on an increased incidence of pancreatic tumors, and equivocal evidence in female rats, based on marginal increases in pancreatic and bladder tumors. Dietary restriction prevented full expression of the pancreatic tumors. There was no evidence for the carcinogenicity of BBP in mice. BBP is not genotoxic. In a range of studies, including those designed to investigate the reproductive effects of BBP on the testes and endocrine hormone in male rats, a modified mating protocol and a one generation study, adverse effects on the testes and, consequently fertility have generally been observed only at doses higher than those that induce effects on other organs (such as the kidney and liver), although decreases in sperm counts have been observed at doses similar to those that induce effects in the kidney and liver. Reduction in testes weight and daily sperm production in the offspring were reported at relatively low level in rats exposed in utero and during lactation. Neither BBP nor its principal metabolites have been uteritrophic in vivo in rats or mice, In several well conducted studies in rats and mice, butyl benzyl phthalate induced marked developmental effects, but only at dose levels that induce significant maternal toxicity. BBP administration disrupts normal learning and social behavior in rats, and these effects could be related to alterations of amygdala function. ECOTOXICITY STUDIES: A range of toxicity tests with aquatic organisms has indicated the adverse effects occur at exposure concentrations greater than 100 ug/L. Behavioral changes in fish were noted after sublethal BBP exposure.

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

>> Butyl benzyl phthalate

PPRTV Assessment

>> PDF Document

Weight-Of-Evidence (WOE)

>> See the IRIS entry for Butyl benzyl phthalate

Last Revision

>> 2002

USGS Health-Based Screening Levels for Evaluating Water-Quality:

This section provides the USGS Health-Based Screening Levels for Evaluating Water-Quality data.

Chemical

>> Butylbenzyl phthalate

Noncancer HBSL (Health-Based Screening Level)[µg/L]

>> 1000

Reference

>> Smith, C.D. and Nowell, L.H., 2024. Health-Based Screening Levels for evaluating water-quality data (3rd ed.). DOI:10.5066/F71C1TWP

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).

>> CLASSIFICATION: C; possible human carcinogen. BASIS FOR CLASSIFICATION: Based on statistically significant increase in mononuclear cell leukemia in female rats; the response in male rats was inconclusive and there was no such response in mice. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: Limited.

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).

IARC Carcinogenic Agent

>> Butyl benzyl phthalate

IARC Carcinogenic Classes

>> Group 3: Not classifiable as to its carcinogenicity to humans

IARC Monographs

>> Volume Sup 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, 1987; 440 pages; ISBN 92-832-1411-0 (out of print)

>> Volume 73: (1999) Some Chemicals that Cause Tumours of the Kidney or Urinary Bladder in Rodents and Some Other Substances

>> 3, not classifiable as to its carcinogenicity to humans. (L135)

Health Effects:

>> Phthalate esters are endocrine disruptors. Animal studies have shown that they disrupt reproductive development and can cause a number of malformations in affected young, such as reduced anogenital distance (AGD), cryptorchidism, hypospadias, and reduced fertility. The combination of effects associated with phthalates is called 'phthalate syndrome'. (A2883)

Exposure Routes:

>> The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

>> Oral (L1208) ; inhalation (L1208) ; dermal (L1208)

>> Phthalate esters are endocrine disruptors and can cause a number of developmental malformations termed 'phthalate syndrome'. (A2883)

Target Organs:

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

>> Hepatic

Adverse Effects:

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

>> Occupational hepatotoxin - Secondary hepatotoxins: the potential for toxic effect in the occupational setting is based on cases of poisoning by human ingestion or animal experimentation.

>> Reproductive Toxin - A chemical that is toxic to the reproductive system, including defects in the progeny and injury to male or female reproductive function. Reproductive toxicity includes developmental effects. See Guidelines for Reproductive Toxicity Risk Assessment.

Toxicity Data:

>> LD50: 3160 mg/kg (Intraperitoneal, Mouse) (L1208) LD50: 2330 mg/kg (Oral, Rat) (L1208) LD50: 4170 mg/kg (Oral, Mouse) (L1208)

Interactions:

>> Although risk assessments are typically conducted on a chemical-by-chemical basis, the 1996 Food Quality Protection Act (FQPA) required the Environmental Protection Agency (EPA) to consider cumulative risk of chemicals that act via a common mechanism of toxicity. To this end, we are conducting studies with mixtures to provide a framework for assessing the cumulative effects of "antiandrogenic" chemicals. Rats were dosed during pregnancy with antiandrogens singly or in pairs at dosage levels equivalent to about one half of the ED50 for hypospadias or epididymal agenesis. The pairs include: AR antagonists (vinclozolin plus procymidone), phthalate esters (DBP plus BBP and DEHP plus DBP), a phthalate ester plus an AR antagonist (DBP plus procymidone), and linuron plus BBP. We predicted that each chemical by itself would induce few malformations; however, by mixing any two chemicals together, about 50% of the males would be malformed. All binary combinations produced cumulative, dose-additive effects on the androgen-dependent tissues. We also conducted a mixture study combining seven "antiandrogens" together. These chemicals elicit antiandrogenic effects at two different sites in the androgen signaling pathway (i.e., AR antagonist or inhibition of androgen synthesis). In this study, the complex mixture behaved in a dose-additive manner. Our results indicate that compounds that act by disparate mechanisms of toxicity display cumulative, dose-additive effects when present in combination. /Mixtures/

Antidote and Emergency Treatment:

>> Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Esters and related compounds/

Human Toxicity Excerpts:

>> /HUMAN EXPOSURE STUDIES/ Exposure to phthalic acid esters, mainly di-(2-ethylhexyl), diisodecyl and butylbenzyl phthalates, or workers in a polyvinyl chloride processing industry ranged from 0.02 to 2 mg/cu m in different job categories. The workers excreted slightly but significantly higher levels of phthalic acid ester metabolites in urine than controls. In 54 workers studied clinically, there were no indications of peripheral nerve or respiratory system effects. Some biochemical tests were abnormal.

Non-Human Toxicity Excerpts:

>> /LABORATORY ANIMALS: Acute Exposure/ ... /It was/ reported that 0.5 mL of neat BBP applied on the abraded or unabraded skin of rabbits for 24 hr produced essentially no irritation.

Non-Human Toxicity Values:

>> LD50 Rat oral 2330 mg/kg

National Toxicology Program Studies:

Reports from the National Toxicology Program, an interagency program supported by three government agencies (NIH, FDA, and CDC) within the Department of Health and Human Services. This program plays a critical role in generating, interpreting, and sharing toxicological information about chemicals of public health concerns.

>> A carcinogenesis bioassay of butyl benzyl phthalate ... was accomplished by feeding diets containing 6,000 or 12,000 ppm of the phthalate to groups of 50 F344/N rats and 50 B6C3F1 mice of each sex for 28 to 103 wk. ... After wk 14, an increasing number of dosed male rats died as a result of an unexplained internal hemorrhaging, and all surviving male rats were /sacrificed/ at wk 29 to 30. Because of cmpd related mortality, butyl benzyl phthalate was not adequately tested for carcinogenicity in male F344/N rats. ... Under the conditions of this bioassay, butyl benzyl phthalate was probably carcinogenic for female F344/N rats, causing an incr incidence of mononuclear cell leukemias. The male F344/N rat study was considered inadequate for the evaluation due to cmpd related toxicity and early mortality. Butyl benzyl phthalate was not carcinogenic for B6C3FI mice of either sex. Levels of Evidence of Carcinogenicity: Male Rats: Inadequate Study; Female Rats: Positive; Male Mice: Negative; Female Mice: Negative.

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.

>> Effects on the liver and liver lipids were evaluated in groups of male and female Fischer 344 rats (5/sex/dose level) fed nominal levels of 0, 1.2 or 2.5% butyl benzyl phthalate in the diet for 21 days. Toxicity was evident by statistical differences between dosed groups and controls for: mean body weights (2.5 and 1.2% group males & 2.5% group females), food consumption values (2.5% group males & females), relative liver and kidney weights (all treated groups) and relative testis weights (2.5% group males). There was a statistically significant decrease in serum triglyceride levels for the 1.2 and 2.5% group males and a significant increase in triglycerides for the 2.5% group females. There was a moderate increase in the amount of peroxisome proliferation for the high dose animals. Liver biochemistry revealed statistically significant differences between treated groups and controls as indicated by cyanide-insensitive palmitoyl-CoA oxidation levels (all treated males & 2.5% group females), lauric acid 11- and 12- hydroxylase activities (all treated males & 2.5% group females) and hepatic microsomal protein levels (2.5% group males). There was no consistent dose response relationship among the treatment groups for lipid content in the liver. Histological changes attributable to butyl benzyl phthalate were reduction in cytoplasmic basophilia in the livers of the high dose rats. Also at the 2.5% dietary level, butyl benzyl phthalate caused severe testicular atrophy.

Populations at Special Risk:

>> Phthalates are used widely in consumer products. Exposure to several phthalates has been associated with respiratory symptoms and decreased lung function. Associations between children's phthalate exposures and fractional exhaled nitric oxide (Fe(NO)), a biomarker of airway inflammation, have not been examined. We hypothesized that urinary concentrations of four phthalate metabolites would be positively associated with Fe(NO) and that these associations would be stronger among children with seroatopy or wheeze. In an urban ongoing birth cohort, 244 children had phthalate metabolites determined in urine collected on the same day as Fe(NO) measurement. Repeated sampling gathered 313 observations between ages 4.9 and 9.1 years. Seroatopy was assessed by specific IgE. Wheeze in the past year was assessed by validated questionnaire. Regression models used generalized estimating equations. Log-unit increases in urinary concentrations of metabolites of diethyl phthalate (DEP) and butylbenzyl phthalate (BBzP) were associated with a 6.6% (95% confidence interval [CI] 0.5-13.1%) and 8.7% (95% CI, 1.9-16.0%) increase in Fe(NO), respectively, adjusting for other phthalate metabolites and potential covariates/confounders. There was no association between concentrations of metabolites of di(2-ethylhexyl) phthalate or di-n-butyl phthalate and Fe(NO). There was no significant interaction by seroatopy. The BBzP metabolite association was significantly stronger among children who wheeze (P = 0.016). Independent associations between exposures to DEP and BBzP and Fe(NO) in a cohort of inner-city children were observed. These results suggest that these two ubiquitous phthalates, previously shown to have substantial contributions from inhalation, are positively associated with airway inflammation in children.

12. Ecological Information

Resident Soil (mg/kg)

>> 2.90e+02

Industrial Soil (mg/kg)

>> 1.20e+03

Tapwater (ug/L)

>> 1.60e+01

MCL (ug/L)

>> 6.00e+00

Risk-based SSL (mg/kg)

>> 2.40e-01

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

>> 1.90e-03

Chronic Oral Reference Dose (mg/kg-day)

>> 2.00e-01

Volatile

>> Volatile

Mutagen

>> Mutagen

Fraction of Contaminant Absorbed in Gastrointestinal Tract

>> 1

Fraction of Contaminant Absorbed Dermally from Soil

>> 0.1

ICSC Environmental Data:

>> The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish.

Sediment/Soil Concentrations:

Concentrations of this compound in sediment/soil.

>> SEDIMENT: Butyl benzyl phthalate was found in 16.9% of 429 sites sampled from 19 major US river basins from Aug 1992 to March 1995 with a maximum concentration of 2200 ug/kg(1). Butyl benzyl phthalate was detected in 5.6% of 536 sites samples Aug 1992 to Sept 1995 in 20 major river basins across the US with a maximum concentration of 2240 ug/kg dry weight(2). Butyl benzyl phthalate was identified, not quantified, in sediment from Newark Bay, NJ(3). Average butyl benzyl phthalate sediment concentrations in the Kanauha River, Lake Erie, the Mississippi River (Memphis) and the Missouri River were 0.13, 0.41, 0.63 and 0.23 ug/g, respectively(4). Butyl benzyl phthalate was found in 3 of 31 sediment samples taken from the Detroit River in 1982 at 0.12-0.22 mg/kg(5). Butyl benzyl phthalate was detected at 0-0.57 ug/kg in sediment samples from 38 stations collected June 1988 to April 1989 on the Calcasieu Estuary, LA(6). Butyl benzyl phthalate was found in surface sediment samples at 4 sites in False Creek in Vancouver, Canada(7). Samples taken in the summer of 1997 in Hamilton Harbour, Ontario had concentrations of butyl benzyl phthalate below the detection limit of 0.3 ug/g(8). Butyl benzyl phthalate was detected at 20.7-50.5 and 1250-5650 ng/g in sediment and suspended solids samples, respectively, collected from 4 locations in False Creek Harbor, Vancouver, Canada(9).

Fish/Seafood Concentrations:

Concentrations of this compound in fish or seafood.

>> Butyl benzyl phthalate was analyzed for but not found in edible fish from Wisconsin lakes and rivers(1). Three seaperch (Embiotoea lateralis) taken from False Creek, Vancouver, Canada contained 0.1 to 10 ppb of butyl benzyl phthalate(2). Butyl benzyl phthalate was found at 710 ug/kg in sea lamprey tissue collected from Brodhead Creek, Stroudsburg, PA on April 21, 1989(3).

Average Daily Intake:

The average amount of the compound taken into the body through eating, drinking, or breathing.

>> The average daily intake of butyl benzyl phthalate was estimated as 0.085 ug/kg/day based on a food survey conducted in Albany, NY in 2011(1). The median concentration of monobenzyl phthalate in urine samples from 36 Japanese people collected May to June 2004 was 2.4 ug/L; this translates to an exposure rate of 0.074-0.11 ug/kg/day of the parent compound butyl benzyl phthalate(2). Based on analysis of urine samples from the German population, the average daily intake of butyl benzyl phthalate was 0.2-9.2, 0.2-6.8 and 0.2-4.5 ug/kg body weight/day in children, females and males, respectively(3).

13. Disposal Considerations

Spillage Disposal

>> Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Disposal Methods

>> SRP: 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 air, soil or water; effects on animal, aquatic and plant life; and conformance with environmental and public health regulations. If it is possible or reasonable use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination.

>> Incineration: It should be atomized into an incinerator and combustion may be improved by mixing with a more flammable solvent (acetone or benzene).

>> Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging Dispose of as unused product.

14. Transport Information

DOT

Butyl benzyl phthalate
9
UN Pack Group: III
Reportable Quantity of 100 lb or 45

IATA

Butyl benzyl phthalate
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 promulagated 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. Butyl benzyl phthalate is included on this list. Effective date 04/29/83; Sunset date 04/29/93.

Regulatory Information

The Australian Inventory of Industrial Chemicals

>> Chemical: 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester

>> Specific Information Requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.

REACH Registered Substance

>> Status: Active Update: 22-07-2022 https://echa.europa.eu/registration-dossier/-/registered-dossier/12721

REACH Restricted Substance

>> Restricted substance: Benzyl butyl phthalate (BBP)

>> EC: 201-622-7

REACH Substances of Very High Concern (SVHC)

>> Substance: Benzyl butyl phthalate (BBP)

>> EC: 201-622-7

>> Date of inclusion: >28-Oct-2008

>> Reason for inclusion: Toxic for reproduction (Article 57c); Endocrine disrupting properties (Article 57(f) - human health)

New Zealand EPA Inventory of Chemical Status

>> Benzyl butyl phthalate: 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.

>> Carbon oxides

Other Safety Information

Chemical Assessment

>> IMAP assessments - C4-6 side chain transitional phthalates: Human health tier II assessment

>> PEC / SN / Other assessments - Butyl benzyl phthalate (BBP): Health

>> IMAP assessments - Phthalate esters: Environment tier II assessment

"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."