

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: May 6, 2015

SPI # 02831-AA, 02831-NA SPI-Chem™ DBP
Component of SPI # 02808-AB, 02809-AB; Durcapan
Resin Kit.
Component of SPI # 02650-AB, 02650-AB; Araldite
6005 Kit.

Section 1: Identification

Chemical Name/Synonyms.....Dibutyl Phthalate

Chemical family.....Ester

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-527-3887

Worldwide FAX: 1-(703)-741-6090

Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name..... SPI-Chem™ DBP

CAS #'s.....84-74-2 Dibutyl phthalate

Chemical Formula.....C₆H₄(CO₂C₄H₉)₂

GHS Classification(s):

Reproductive toxicity Category 1B

Acute aquatic toxicity Category 1

GHS Hazard Symbol(s)



Signal Word: Danger

Hazard Statement(s):

H360: May damage fertility or the unborn child

H400: Very toxic to aquatic life

Precautionary Statement(s):

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous Material Information System USA

Health.....2
Fire Hazard.....1
Reactivity.....0
Personal Protection.....

NFPA Rating (estimated)

Health.....2
Flammability.....1
Reactivity.....0

Section 2: Composition

Components	RTECS #	CAS#	EINICS	Percent
Dibutyl Phthalate	TI0875000	84-74-2	201-557-4	99

Section 3: Hazard Identification

Emergency overview: May irritate skin, eyes, or respiratory tract. May cause harm to unborn children or impaired fertility. Very toxic to aquatic organisms

Appearance: Colorless to light yellow liquid.

Flash Point: 171° C (340° F)

Method: closed cup

Danger

Route of Exposure: skin contact, skin absorption, eye contact, inhalation, ingestion

Target Organs: kidneys, liver, lungs, testes, central nervous system, eyes

Potential Health Effects

Skin contact: causes skin irritation

Skin absorption: May be harmful if absorbed through the skin

Eye contact: causes eye irritation

Inhalation: May be harmful if inhaled. Vapor or mist is irritating to the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed

Chronic: Chronic exposure may effect reproductive system, with potential risk of harm to unborn children. Animal testing has found results of reduced testes weights and histological evidence of testicular injury.

Signs and Symptoms of Exposure: Nausea, dizziness, and headache. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 4: First Aid Measures

Eyes: Upon contact, wash eyes thoroughly with copious amounts of warm water for at least 15 minutes, holding the eyes open. Remove contacts if present. Seek medical attention.

Skin: Wash contaminated area thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Cover contaminated skin with an emollient. If irritation persists, seek medical attention.

Ingestion: Upon ingestion, dilute with 2-4 glasses of water. Do not induce vomiting and seek medical attention.

Inhalation: Remove victim to fresh air. If irritation persists, seek medical attention. If victim is not breathing, administer oxygen.

Notes to Physician: Treat supportively and symptomatically.

Section 5: Fire Fighting Measures

General Information: Always wear full protective equipment including self containing breathing apparatus.

Auto Ignition Temperature: 402° C (755.6° F).

Flash Point: 171° C (340° F, CC).

Explosion Lower Limit: 0.47%

Flammability: May be combustible at high temperatures.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide.

Unusual Fire/Explosion Hazards: N/A

Extinguishing Media: For small fires, use dry chemical. For large fires, use water spray, fog, or foam. Do not use water jets.

Protective Measures: No special protective measures are required.

Section 6: Accidental Release Measures

Spills/Leaks: Wear appropriate protective equipment. Contain the spill. Soak up spill with absorbent material and place in appropriate disposal container.

Disposal Procedure: Dispose of in accordance with all local, state, and federal environmental regulations.

Section 7: Handling and Storage

Handling: Always wear protective equipment appropriate to the task. Avoid contact with skin, eyes, and clothing. Always use adequate ventilation, avoiding breathing fumes or mists. Launder contaminated clothing before reuse. Keep away from flames, sources of ignition, and incompatible materials (oxidizing agents, acids, and alkalies).

Storage: Store closed containers, in well-ventilated, cool areas. Keep out of the reach of children.

Section 8: Exposure Controls and Personal Protection

Engineering Controls: Exhaust ventilation should be available to keep concentrations below T.L.V. Shower and eye wash stations should be readily accessible in work area.

Personal Protective Equipment

Eyes: Chemical safety goggles or glasses with side shields are required.

Skin: Wear chemical resistant gloves to prevent skin contact.

Clothing: Protective clothing such as long sleeves or a lab coat should be worn. When handling heated materials, also be sure to use heat-resistant gloves, boots and face protection.

Respirators: If exposure limit is reached, a respirator that conforms to OSHA's 29 CFR 1910.134 and ANSI Z88.2 or (European Standard EN 149) requirements should be used.

Exposure Limits			
Component	ACGIH	NIOSH	OSHA - Final PELs
Dibutyl Phthalate	5 mg/m ³ (TWA)	5 mg/m ³ (TWA) 4000 mg/m ³ (IDLH)	5 mg/m ³ (TWA)

Section 9: Physical and Chemical Properties

Physical State: Liquid.

Appearance: Colorless to light yellow liquid.

Odor: Odorless.

pH: N/A

Vapor Pressure: 0.00007 mm Hg @ 25° C.

Vapor Density: 9.6 (air = 1).

Evaporation Rate: 0 (butyl acetate = 1)

Viscosity: 21 cps @ 20° C

Boiling Point: 340° C

Freezing/Melting Point: -35° C

Autoignition Temperature: 402° C (755.60° F)

Flash Point: 171° C (CC).

Decomposition Temperature: N/A

Explosion Limits

Lower: 0.47%

Upper: N/A

Solubility in water: Insoluble.

Specific Gravity/Density: 1.043 (water = 1).

Molecular Formula: C₆H₄(CO₂C₄H₉)₂

Molecular Weight: 278.34 amu.

Refractive Index: 1.492

Section 10: Stability and Reactivity

Chemical Stability: Stable under normal handling and working conditions.

Conditions to Avoid: Excessive heat.

Incompatibility with Other Materials: Strong oxidizing agents. Strong acids. Strong bases, Nitrates, Chlorine

Hazardous Decomposition of Products: Carbon oxides. Acrid smoke. Fumes.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Route of Exposure

Skin contact: Causes skin irritation

Skin absorption: May be harmful if absorbed through the skin

Eye contact: Causes eye irritation

Inhalation: May be harmful if inhaled. Vapor or mist is irritating to the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Target Organs or systems: kidneys, liver, lungs, testes, central nervous system, eyes

Sings and symptoms of exposure: Exposure can cause nausea, dizziness and headache. To the best of our knowledge, the chemical, physical, and toxicological properties have not be thoroughly investigated.

Toxicity data

Species	Test	Route of Application	Dose
Rat	LD50	Oral	8000 mg/kg
Rat	LC50	Inhalation	4250 mg/m ³
Rat	LD50	Intraperitoneal	3050 ul/kg
Rat	LD50	Intramuscular	>8 mg/kg
Mouse	LD50	Oral	5289 mg/kg
Mouse	LC50	Inhalation	25,000 mg/m ³
Mouse	LD50	Intraperitoneal	3570 mg/kg
Mouse	LD50	Intravenous	720 mg/kg
Rabbit	LD50	Skin	>20 ml/ kg
Guinea pig	LD50	Oral	10000 mg/kg

Chronic Exposure- Teratogen**Result:** May cause congenital malformation in the fetus

Species	Dose	Application	Exposure Time	Result
Rat	2520 mg/kg	Oral	1-21D preg	Extra embryonic structures
Rat	1500 mg/kg	Oral	15D preg	Abnormalities: Craniofacial and musculoskeletal Embryo/fetus: fetotoxicity (except death)
Rat	305 mg/kg	Intraperitoneal	5-15D preg	Embryo/fetus: fetotoxicity (except death) Abnormalities: musculoskeletal
Mouse	8640 mg/kg	Oral	1-18D preg	Embryo/fetus: fetotoxicity (except death)

Chronic Exposure – Mutagen

Species	Dose	Cell Type	Mutation Test
Human	354 mmol/l	lymphocyte	DNA damage
Human	354 mmol/l	Other cell types	DNA damage
Hamster	30 mg/l	fibroblast	Cytogenetic analysis

Chronic Exposure – Reproductive Hazard**Result:** Overexposure may cause reproductive disorders based on test with laboratory animals

Species	Dose	Application	Exposure Time	Result
Rat	24 gm/kg	Oral	20D male	Paternal: testes, epididymis, sperm duct Paternal: spermatogenesis
Rat	6750 mg/kg	Oral	0-8D preg	Maternal: Uterus, cervix, vagina Fertility: Post implantation mortality
Rat	2250 mg/kg	Oral	7-9D preg	Abnormalities: Craniofacial Embryo/fetus: fetotoxicity Fertility: Post implantation mortality
Rat	8820 mg/kg	Oral	7-15D preg	Fertility: Post implantation mortality Embryo/fetus: fetotoxicity/fetal death
Rat	19 gm/kg	Oral	3-22D preg 2-20D post	Newborn: Delayed effects, physical Maternal: uterus, cervix, vagina
Rat	6750 mg/kg	Oral	0-8D preg	Fertility: litter size, post implantation mortality Maternal: other effects
Rat	1017 mg/kg	Intraperitoneal	5-15D preg	Fertility: Post-implantation mortality
Rat	6 gm/kg	Intraperitoneal	3-9D preg	Newborn: weaning or lactation index
Mouse	7200 mg/kg	Oral	1-18D preg	Abnormalities: Central nervous system Fertility: litter size, post-implantation mortality
Mouse	20 gm/kg	Oral	6-13D preg	Fertility: litter size
Mouse	16800 mg/kg	Oral	7D male	Paternal: testes, epididymis, sperm duct
Guinea pig	14 gm/kg	Oral	7D male	Paternal: testes, epididymis, sperm duct

*post-implantation mortality-dead and/or resorbed implants per total number of implants

*Fetotoxicity- except death e.g. stunted fetus unless otherwise specified

*Weaning or lactation index- e.g. number alive at weaning per number alive at day 4

Section 12: Ecological Information

Exotoxicity

Species

Bluegill/Sunfish 1.2 mg/L; 96H

Fathead Minnow (fish) 1.3 mg/L; 96H

Environmental Fate: This product is expected to have low mobility in soil.

Aquatic: This product is expected to adsorb to suspended solids and sediments in water. Expected to volatilize from water surfaces. In high concentrations, this product is dangerous to aquatic life.

Atmospheric: This product is expected to exist in particulate and vapor phases in the atmosphere, with a half-life of 42 hours.

Section 13: Disposal Considerations

Waste Disposal: Dispose of in accordance with all local, state, and federal environmental regulations.

RCRA P-Series: None.

RCRA U-Series: Waste number U069

Section 14: Transport Information

US DOT Hazard Class:

Shipping Name: Environmentally Hazardous Substances, Liquid, N.O.S.

Hazard Class: 9

UN # 3082

Packing Group: III

Additional Information: None.



Canada TDG:

Shipping Name: Environmentally Hazardous

Hazard Class: 9

UN # 3082

Packing Group: III

Additional Information: Substances, Liquid, N.O.S.

Section 15: Regulatory Information

United States:

TSCA

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

SARA

Section 302 (RQ)

Not listed

Section 302 (TPQ)

Not listed

SARA 311/312

chronic health hazard

Section 313

Dibutyl phthalate 84-74-2

States

Massachusetts Right To Know: Dibutyl phthalate 84-74-2

Pennsylvania Right To Know: Dibutyl phthalate 84-74-2

New Jersey Right To Know: Dibutyl phthalate 84-74-2

California Prop. 65: Dibutyl phthalate 84-74-2

CANADA:

CAS# 26142-30-3 is listed on the DSL List.

WHMIS

This product is not a Controlled Product under WHMIS.

European Directives Classification

Hazard Symbol(s)

[N] Dangerous for the environment

[T] Rep Cat 2

[T] Rep Cat 3

Risk Phrase(s):

R61: May cause harm to the unborn child. [T] Rep Cat 2

R50: Very toxic to aquatic organisms. [N]

R62: Possible risk of impaired fertility. [T] Rep Cat 3

Safety Phrase(s):

S53: Avoid exposure - obtain special instructions before use.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Dibutyl phthalate CAS# 84-74-2): 3

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged

contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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