# Chemical Safety Data Sheet MSDS / SDS

## Dibutyltin dichloride SDS

Revision Date: 2024-04-25 Revision Number: 1

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product identifier

Product name: Dibutyltin dichloride

CAS: 683-18-1

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified For R&D use only. Not for medicinal, household or other use.

uses:

Uses advised none

against:

### Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

### **SECTION 2: Hazards identification**

### Classification of the substance or mixture

Acute toxicity - Category 3, Oral Acute toxicity - Category 4, Dermal Skin corrosion, Sub-category 1B

Acute toxicity - Category 2, Inhalation

Germ cell mutagenicity, Category 2

Specific target organ toxicity - repeated exposure, Category 1

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

Reproductive toxicity, Category 1B

### GHS label elements, including precautionary statements

Pictogram(s)







Signal word

Dangei

## Hazard statement(s)

H301 Toxic if swallowed

H312 Harmful in contact with skin

H314 Causes severe skin burns and eye damage

H330 Fatal if inhaled

H341 Suspected of causing genetic defects

H372 Causes damage to organs through prolonged or repeated exposure

H410 Very toxic to aquatic life with long lasting effects

## Precautionary statement(s)

#### Prevention

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P284 [In case of inadequate ventilation] wear respiratory protection.

P203 Obtain, read and follow all safety instructions before use.

P273 Avoid release to the environment.

### Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P317 Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P320 Specific treatment is urgent (see ... on this label).

P318 IF exposed or concerned, get medical advice.

P319 Get medical help if you feel unwell.

P391 Collect spillage.

### Storage

P405 Store locked up.

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

### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### Other hazards which do not result in classification

no data available

## **SECTION 3: Composition/information on ingredients**

#### Substance

Chemical name: Dibutyltin dichloride
Common names and Dibutyltin dichloride

synonyms:

CAS number: 683-18-1 EC number: 211-670-0

Concentration: 100%

### **SECTION 4: First aid measures**

### Description of necessary first-aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

## Most important symptoms/effects, acute and delayed

no data available

### Indication of immediate medical attention and special treatment needed, if necessary

### Absorption, Distribution and Excretion

Within 1 hr after iv injection of 20 umol dibutyltin dichloride, rats excreted in the bile 2x10-5 mol organotin/l. the bile/plasma quotient was 151:1 which indicates an active transport of dibutyltin chloride from liver to the bile. biotransformation was not involved in the excretion.

## **SECTION 5: Firefighting measures**

### Suitable extinguishing media

To fight fire, use water, foam, CO2, dry chemical.

### Specific hazards arising from the chemical

no data available

## Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### **SECTION 6:** Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

## **Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

# **SECTION 7: Handling and storage**

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## SECTION 8: Exposure controls/personal protection

### Control parameters

## Occupational Exposure limit values

Component	Dibutyltin dichloride			
CAS No.	683-18-1			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	<sub>mg/m</sub> 3
Germany (AGS)	0,0018 (1)	0,009 (1)	0,0018 (1)(2)	0,009 (1)(2)
	Remarks			
Germany (AGS)	(1) Inhalable fraction and vapour (2) 15 minutes average value			

### Biological limit values

no data available

## Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures, such as personal protective equipment (PPE)

## Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

## Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

### Thermal hazards

no data available

# SECTION 9: Physical and chemical properties and safety characteristics

Physical state: Liquid, Other Solid

Colour: White crystalline solid

39-41°C

Odour: no data available

Melting

point/freezing

point:

Boiling point or initial boiling point

t

135°C/10mmHg(lit.)

and boiling range:

Flammability: no data available

Lower and upper

explosion

no data available

limit/flammability

limit:

Flash point: 113°C

Auto-ignition

no data available

no data available

temperature:
Decomposition

no data available

temperature:

pH: no data available

Kinematic

viscosity: Solubility:

SOL IN ETHER, BENZENE, ALCOHOL

Partition log Kow=0.97

coefficient n-

octanol/water:

Vapour pressure: 2 mm Hg at 100 deg C

Density and/or relative density:

1.4

Relative vapour

10.5 (Air = 1)

density:

Particle characteristics:

no data available

# **SECTION 10: Stability and reactivity**

## Reactivity

no data available

### Chemical stability

no data available

## Possibility of hazardous reactions

Combustible when exposed to heat or flame. ... Can react vigorously with oxidizing materials.

#### Conditions to avoid

no data available

### Incompatible materials

Will react with water or steam to produce heat and toxic fumes; can react vigorously with oxidizing materials.

## Hazardous decomposition products

Decomp by hot & cold water, decomp at 113.6 deg c, 60 mm hg

# **SECTION 11: Toxicological information**

### Acute toxicity

Oral: LD50 White mouse oral 35 mg/kg

Inhalation: no data available Dermal: no data available

### Skin corrosion/irritation

no data available

## Serious eye damage/irritation

no data available

## Respiratory or skin sensitization

no data available

## Germ cell mutagenicity

no data available

# Carcinogenicity

A4; Not classifiable as a human carcinogen. Tin, organic cmpd, as Sn

## Reproductive toxicity

no data available

## STOT-single exposure

no data available

## STOT-repeated exposure

no data available

# Aspiration hazard

no data available

# **SECTION 12: Ecological information**

## **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### Persistence and degradability

Tributyltin species, obtained by dissolution of tributyltin oxide in water, are sequentially degraded by microorganisms to dibutyltin, monobutyltin (similar to the monobutyltin obtained by dissolution of mono-n-butyltin trichloride), and finally to inorganic tin using water/sediment mixtures or water alone from Tomoto Harbor, Canada(1). Butyltin compounds may be susceptible to biomethylation based upon the possible biomethylation of dibutyltin and tributyltin compounds(1).

### Bioaccumulative potential

The observed BCF for dibutyltin dichloride in round crucian carp (Carassius grandoculis) muscle, vertebra, liver, and kidney tissue were 12, 46, 135, and 61, respectively(2). In a tin bioconcentration study, the freshwater clam, Anodonta anatina, was exposed to dibutyltin dichloride for 7 months at a total concn of 15 ug tin equivalents/liter(2). Only total tin concn were determined(2). The average concn of tin in the gills, mantle plus mantle-edge, midgut gland, kidney, and remaining tissue fraction were as follows: 0.94, 0.13, 0.22, 0.60, 23.5, and 0.56 ug Sn/g wet wt, respectively(2). The max BCF for dibutyltin dichloride for the tissues are as follows (if all of the tin in the clams was in this form): 63, 8.6, 15, 40, 1,567, and 37, respectively(2). According to a classification scheme(2), a BCF value of 12 suggests bioconcentration in aquatic organisms is low(SRC).

### Mobility in soil

Dibutyltin dichloride is expected to dissociate in water forming the cation, dibutyltin(SRC). Cations generally adsorb to organic carbon and clay(SRC). The adsorption of dibutyltin dichloride was studied under simulated estuarine conditions which included artificial seawater (salinity(S)), hydrous iron oxide (moderately particulate matter (PM)), and fulvic acid(1). The partition coefficients Kp (ug/kg)/ug/l) ranged from zero (no adsortion at pH 8.2 and with low S and high PM concn or high S and low PM concn) to 110,000 (at pH 6.2 and high S and low PM concn)(1). Based upon these results, dibutyltin dichloride is expected to exist mainly in the solution (aqueous) phase in estuarine waters and seawater(1). In a study of desorption from sediment, approximately 1% of the initial dibutyltin species was observed to desorb from the unshaken Toronto Harbor sediment/water mixtures in 10.6 months(2).

### Other adverse effects

no data available

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## **SECTION 14: Transport information**

#### **UN Number**

ADR/RID: UN2928 (For reference only, please check.) IMDG: UN2928 (For reference only, please check.) IATA: UN2928 (For reference only, please check.)

## **UN Proper Shipping Name**

ADR/RID: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.) IMDG: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.) IATA: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (For reference only, please check.)

## Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.) IMDG: 6.1 (For reference only, please check.) IATA: 6.1 (For reference only, please check.)

## Packing group, if applicable

ADR/RID: I (For reference only, please check.)
IMDG: I (For reference only, please check.)
IATA: I (For reference only, please check.)

#### Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

## Special precautions for user

no data available

## Transport in bulk according to IMO instruments

no data available

## **SECTION 15: Regulatory information**

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

**EC Inventory** 

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

### IECSC)

Listed.

### Korea Existing Chemicals List (KECL)

Listed.

### **SECTION 16: Other information**

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

#### References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

http://www.echemportal.org/echemportal/index?pageID=0&request\_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:

http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp ECHA - European Chemicals Agency, website: https://echa.europa.eu/

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