

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### SECTION 1 Product identifiers

Product name : Tributyl phosphate, GR 99%+

Product Number : T 2027

CAS-No. : 126-73-8

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Carcinogenicity (Category 2), H351

Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H351

Suspected of causing cancer.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201

Obtain special instructions before use.

P273

Avoid release to the environment.

P301 + P312 + P330

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P302 + P352

IF ON SKIN: Wash with plenty of water.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard

none

Statements

Reduced Labeling

(<= 125 ml)

Pictogram

Signal word

Warning

Hazard statement(s)

H351

Suspected of causing cancer.

H412

Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201

Obtain special instructions before use.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard

none

Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : C<sub>12</sub>H<sub>27</sub>O<sub>4</sub>P

Molecular weight : 266,31 g/mol

CAS-No. : 126-73-8

EC-No. : 204-800-2

Component	Classification	Concentration
tributyl phosphate		
CAS-No. 126-73-8 EC-No.204-800-2	Acute Tox. 4; Skin Irrit. 2; Carc. 2; Aquatic Chronic 3; H302, H315, H351, H412	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

#### Carbon oxides

#### Oxides of phosphorus

Combustible.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### 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. Store in cool place.

#### Storage class

Storage class (TRGS 510): 10: Combustible liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Ingredients with workplace control parameters

### 8.2 Exposure controls

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

##### Full contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

##### Splash contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

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

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |   |
|---|---|
| a) Appearance Form:                             | liquid                                  |
| b) Odor   | odorless                                |
| c) Odor Threshold                               | No data available                       |
| d) pH   | No data available                       |
| e) Melting point/freezing point                 | Melting point/range: -79 °C - lit.      |
| f) Initial boiling point and boiling range      | 180 - 183 °C at 29 hPa - lit.           |
| g) Flash point                                  | 146 °C - closed cup                     |
| h) Evaporation rate                             | < 0,001 - n-butyl acetate               |
| i) Flammability (solid, gas)                    | No data available                       |
| j) Upper/lower flammability or explosive limits | No data available                       |
| k) Vapor pressure                               | 0,008 hPa at 20 °C<br>0,08 hPa at 50 °C |
| l) Vapor density                                | 9,2                                     |
| m) Density                                      | 0,979 g/cm <sup>3</sup> at 25 °C - lit. |

Relative density	No data available
n) Water solubility	ca.6 g/l at 20 °C
o) Partition coefficient: n-octanol/water	log Pow: 4,0 - Potential bioaccumulation
p) Autoignition temperature	> 482 °C
q) Decomposition temperature	177 - 178 °C -
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
9.2 Other safety information	
Surface tension	25,1 - 27,55 mN/m at 20 °C
Relative vapor Density	9,2

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 1.552 mg/kg

(OECD Test Guideline 423)

LC50 Inhalation - Rat - male and female - 4 h - > 4,242 mg/l

(OECD Test Guideline 403)

Remarks: (highest concentration to be prepared)

LD50 Dermal - Rabbit - male and female - > 3.100 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h

(OECD Test Guideline 404)

(Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: slight irritation - 24 h

(OECD Test Guideline 405)

Respiratory or skin sensitization

Open epicutaneous test - Guinea pig

Result: negative

(US-EPA)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

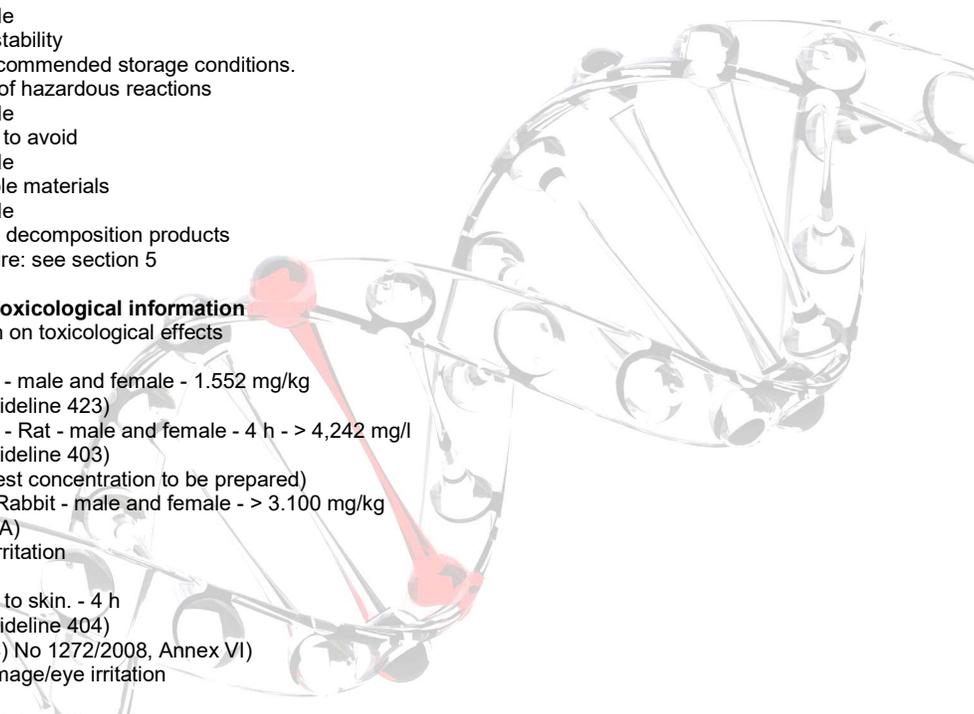
Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (ECHA)



Test Type: Chromosome aberration test

Species: Rat

Cell type: Bone marrow

Application Route: Oral

Result: negative

Remarks: (ECHA)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: TC7700000

CNS stimulation.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish LC50 - *Oryzias latipes* (Orange-red killifish) - 4,5 mg/l - 96 h  
(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

EC50 - *Daphnia magna* (Water flea) - 1,8 mg/l - 48 h

Remarks: (External MSDS)

Toxicity to algae IC50 - *Desmodesmus subspicatus* (green algae) - 1,1 mg/l - 72 h

Remarks: (ECOTOX Database)

Toxicity to bacteria static test EC50 - activated sludge - > 100 mg/l - 3 h

(OECD Test Guideline 209)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 92 % - Readily biodegradable.

(OECD Test Guideline 301D)

### 12.3 Bioaccumulative potential

Bioaccumulation *Oryzias latipes* - 38 d

- 93 µg/l(tributyl phosphate)

Bioconcentration factor (BCF): 21 - 35

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Toxic to aquatic life.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

