tri-n-butyltin hydride@ TBT@ Tributyltin

IDENTIFICATION NUMBERS

- **CAS:** 688-73-3
- **EC/EINECS:** 211-704-4

MORE INFORMATION

- **Molecular Formula:** C12H28Sn
- **Synonyms:** estannano, tributil-, tributilestannano, tributilestaño, hidruro de tri-n-butilestaño, tributil estaño, hidruro de tributilestaño, tributilestaño

USES

paint, additive, biocide, stabilizer, pesticide

⚠ **Black list — Substances particularly hazardous to the environment or health**

CLASSIFICATION AND LABELLING (Regulation 1272/2008)

Symbols



GHS06

Acute toxicity (oral, dermal, inhalation)



GHS08

Respiratory sensitisation



GHS09

Hazardous to the aquatic environment

Signal word: Danger

H Phrases

H312 : Harmful in contact with skin

Acute Tox. (Cat. 4 *) : Acute toxicity

H372 : Causes damage to organs through prolonged or repeated exposure

STOT RE (Cat. 1) : Specific target organ toxicity - repeated exposure

H319 : Causes serious eye irritation

Eye Irrit. (Cat. 2) : Serious eye damage/eye irritation

H315 : Causes skin irritation

Skin Irrit. (Cat. 2) : Skin corrosion/irritation

H400 : Very toxic to aquatic life

Aquatic Acute (Cat. 1) : Hazardous to the aquatic environment

H410 : Very toxic to aquatic life with long lasting effects

Aquatic Chronic (Cat. 1) : Hazardous to the aquatic environment

H301 : Toxic if swallowed

Acute Tox. (Cat. 3 *) : Acute toxicity

Nota A.Nota 1.

Notes

- R.1272-Note A
- R.1272-Note 1

Labelling

Concentration	Labelling
C >= 25 %:	T, N; R21-25-36/38-48/23/25- 50/53
2,5 % <= C < 25 %:	T, N; R21-25-36/38- 48/23/25-51/53
1% <= C < 2,5 %:	T; R21-25-36/38-48/23/ 25-52/53
0,25 % <= C < 1 %:	Xn; R22-48/20/22-52/ 53
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Specific health risks

Endocrine disruptors

Substances with endocrine disrupting activity

DISRUPTOR LEVEL

NS, UE2, OSF

Occupational Exposure Limits (OEL)

Daily exposure limit values (VLA-ED) published by the Spanish National Institute of Safety and Health at Work (INSST). They represent the average concentration of a chemical agent in the worker's breathing zone, measured or calculated in a time-weighted manner for an 8-hour daily working period. (https://www.insst.es/valores-limites-de-exposicion)

OCCUPATIONAL EXPOSURE LIMITS

State / Form	TWA (ppm)	TWA (mg/m³)	STEL (ppm)	STEL (mg/m³)	Notes
—	—	0.1	—	0.2	vía dérmica

Specific environmental risks

Aquatic toxicity (Water Framework Directive)

Substances classified with acute aquatic toxicity under the CLP Regulation (H400 phrase, Aquatic Acute 1). They present an immediate hazard to aquatic organisms, and their use or discharge can cause rapid damage to aquatic ecosystems.

Environmental regulations

LPCIC (EPER)

Priority substances and specific pollutants within the EU water policy framework, established by the Water Framework Directive (2000/60/EC) and the Priority Substances Directive (2008/105/EC and amendments). Substances posing significant risk to European surface waters and subject to Environmental Quality Standards (EQS).

EPER WATER

1

EPER AIR

EPER SOIL

1

EPER Water

Substances from List 1 of Annex III of the IPPC Directive (integrated into the Industrial Emissions Directive 2010/75/EU). Atmospheric pollutants —including SO_2, NOx, heavy metals and organic compounds— that must be taken into account when setting emission limit values for IPPC installations.

EPER Soil

Substances from List 3 of Annex III of the IPPC Directive (integrated into the Industrial Emissions Directive 2010/75/EU). Substances present in waste generated by IPPC installations that must be controlled and minimised within the framework of best available techniques.

Restriction/prohibition regulations

Restricted substances under REACH

Substances listed in Annex XVII of the REACH Regulation (EC) No 1907/2006, subject to restrictions on their manufacture, placing on the market or use. Restrictions may be total or partial, limiting specific applications, maximum concentrations or user groups.

Substances under PACT evaluation

Substances under active regulatory monitoring through ECHA's PACT (Public Activities Coordination Tool). Allows tracking which regulatory authorities are examining a substance and what potential regulatory actions are being considered (restriction, SVHC identification, harmonised classification, etc.).

Major accident hazards (Seveso)

Hazardous substances listed in Annex I of the Seveso III Directive (Directive 2012/18/EU), transposed in Spain by Royal Decree 840/2015. Their presence in industrial establishments in quantities equal to or above established thresholds triggers obligations to implement major accident risk control measures.