# cadmium zirconium trioxide

## IDENTIFICATION NUMBERS

- **CAS:** 12139-23-0
- **EC/EINECS:** 235-251-7

## MORE INFORMATION

- **Molecular Formula:** CdO3Zr
- **Synonyms:** SAL DE TRIOXIDO DE ZIRCONIO Y CADMIO, ZIRCONATO DE CADMIO

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

## CLASSIFICATION AND LABELLING (Regulation 1272/2008)

### Symbols



**GHS07**

Acute toxicity (oral, dermal, inhalation



**GHS09**

Hazardous to the aquatic environment

### Signal word: Warning

### H Phrases

**H312** : Harmful in contact with skin

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

**H302** : Harmful if swallowed

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

**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

**H332** : Harmful if inhaled

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

*Nota A.Nota 1.*

### Notes

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

### Labelling

| Concentration | Labelling |
|---|---|
| C >= 25 %: | Xn, N; R20/21/22-50/53 |
| 2,5 % <= C < 25 %: | Xn, N; R20/21/22-51/ 53 |
| 0,25 % <= C < 2,5 %: | Xn; R20/21/22-52/ 53 |
| 0,1 % <= C < 0,25 %: | Xn; R20/21/22 |
| | * |

## Specific health risks

### According to IARC

Substances classified as carcinogens or mutagens Category 2 under the CLP Regulation (GHS), bearing H351 and/or H341 phrases. These are substances suspected of causing cancer or heritable genetic mutations in humans.

**IARC GROUP**

Grupo 1

**IARC VOLUME**

(VOL. 58; 1993)

### Biological Exposure Indices (BEI)

Biological limit values (VLB) published by the Spanish National Institute of Safety and Health at Work (INSST). Reference values for assessing the risk of chemical agents by measuring them or their metabolites in biological matrices (blood, urine, exhaled air) of exposed workers.

**BIOLOGICAL EXPOSURE INDICES**

| Biological indicator | BEI | Sampling time | Notes |
|---|---|---|---|
| Cadmio en orina | 5 µg/g creatinina | No crítico (3) | F |
| Cadmio en sangre | 5 µg/l | No crítico (3) | F |

### 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 |
|---|---|---|---|---|---|
| — | — | 5 | — | 10 | — |

## 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 | EPER AIR |
| --- | --- |
| 1 | 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 Air

Substances from List 2 of Annex III of the IPPC Directive (integrated into the Industrial Emissions Directive 2010/75/EU). Pollutants that may affect surface and groundwater bodies and must be considered in the integrated environmental authorisation of industrial installations.

## 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.

### 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.