# fluorine

### IDENTIFICATION NUMBERS

- **CAS:** 7782-41-4
- **EC/EINECS:** 231-954-8
- **International Chemical Safety Card (ICSC):** 0046

### MORE INFORMATION

- **Molecular Formula:** F2
- **Synonyms:** FLUORINA

## CLASSIFICATION AND LABELLING (Regulation 1272/2008)

### Symbols



**GHS03**

Oxidising gases



**GHS04**

Gases under pressure



**GHS05**

Corrosive to metals



**GHS06**

Acute toxicity (oral, dermal, inhalation)

**Signal word:** **Danger**

### H Phrases

**H???**

Gas a pres.,

**H270** : May cause or intensify fire; oxidizer

Ox. Gas (Cat. 1) : Oxidising gas

**H330** : Fatal if inhaled

Acute Tox. (Cat. 2 *) : Acute toxicity

**H314** : Causes severe skin burns and eye damage

Skin Corr. (Cat. 1A) : Skin corrosion/irritation

## Specific health risks

### 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**

IB: Fluoruros en orina (antes de la jornada laboral)2

mg/lIB: Fluoruros en orina (final de la jornada laboral)3

mg/lNotas: F,I

### 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**

VLA-ED1 ppm1,6 mg/m3VLA-EC2 ppm3,2 mg/m3

## Specific environmental risks

### Hazardous water substances (Germany)

Substances classified with chronic aquatic toxicity under the CLP Regulation (H410–H413 phrases, Aquatic Chronic categories 1 to 4). They pose a long-term hazard to aquatic organisms, even at low concentrations and through prolonged exposure.

**MMA CLASSIFICATION**

1

### Atmospheric emissions

Substances subject to atmospheric emission limitations under the Industrial Emissions Directive (2010/75/EU) and its Spanish transposition. Includes pollutants regulated in industrial installation emission permits and best available technique reference documents (BAT/BREF).

## 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 |
| --- | --- |
| false | true |

### 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

### 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.