warfarin (ISO)@4-hydroxy-3-(3-oxo-1- phenylbutyl)-2H-chromen-2-one

IDENTIFICATION NUMBERS

- **CAS:** 81-81-2
- **EC/EINECS:** 201-377-6
- **International Chemical Safety Card (ICSC):** 0821

MORE INFORMATION

- **Molecular Formula:** C19H16O4
- **Synonyms:** 4-hidroxi-3-(3-oxo-1-fenilbutil)-2H-cromen-2- ona

USES

pesticide, rodenticide

⚠ **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

H360D : May damage the unborn child.

Repr. (Cat. 1A) : Reproductive toxicity

H330 : Fatal if inhaled

Acute Tox. (Cat. 1) : Acute toxicity

H310 : Fatal in contact with skin

Acute Tox. (Cat. 1) : Acute toxicity

H300 : Fatal if swallowed

Acute Tox. (Cat. 2) : Acute toxicity

H372 : Causes damage to organs through prolonged or repeated exposure

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

H411 : Toxic to aquatic life with long lasting effects

Aquatic Chronic (Cat. 2) : Hazardous to the aquatic environment

Labelling

Concentration	Labelling
C = 0,003 %	Repr., 1A; H360D
C = 0,5 %	STOT repe., 1; H372 (blood)
0,05 % = C < 0,5 %	STOT repe., 2; H373 (blood)

Specific health risks

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	—	—	TR1

Prohibited for pregnant workers

Substances prohibited for pregnant workers

Reproductive toxicants

Substances classified as toxic for reproduction under Regulation 1272/2008

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.

NOTES

Limitations: Without prejudice to the other parts of this Annex the following shall apply to entries 28 to 30: 1. Shall not be placed on the market, or used, - as substances, - as constituents of other substances, or, - in mixtures, for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than: - either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or, - the relevant concentration specified in Directive 1999/45/EC where no specific concentration limit is set out in Part 3 of Annex VI to Regulation (EC) No 1272/2008. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows: ‘Restricted to professional users’. 2. By way of derogation, paragraph 1 shall not apply to: (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/ EC; (b) cosmetic products as defined by Directive 76/ 768/EEC; (c) the following fuels and oil products: - motor fuels which are covered by Directive 98/70/EC, - mineral oil products intended for use as fuel in mobile or fixed combustion plants, - fuels sold in closed systems (e.g. liquid gas bottles); (d) artists’ paints covered by Directive 1999/45/ EC; (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date. Source: Regulation 1907/2006 (REACH). Annex XVII

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.

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.).

Authorized Pesticide

Active substances approved for use in plant protection products (agricultural pesticides) in the European Union under Regulation (EC) No 1107/2009. Includes herbicides, fungicides, insecticides, acaricides and other crop protection agents with current European-level approval.

SOURCE

Real Decreto 2163/1994