crufomate@Ruelene@2-Chloro-4-(1,1-dimethylethyl)phenyl methyl methylphosphoramidate@4-tert-Butyl-2-chlorophenyl methyl methylphosphoramidate@Phosphoramidic acid,methyl-,4-tert-butyl-2-chlorophenyl methyl ester

IDENTIFICATION NUMBERS

- **CAS:** 299-86-5
- **EC/EINECS:** 206-083-1
- **International Chemical Safety Card (ICSC):** 1143

MORE INFORMATION

- **Molecular Formula:** C12H19ClNO3P
- **Synonyms:** CRUFOMATO (ISO), METILFOSFORAMIDATO DE 4-terc-BUTIL-2-CLOROFENILO Y DE METILO

USES

pesticide

⚠ **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

H302 : Harmful if swallowed

H400 : Very toxic to aquatic life

H410 : Very toxic to aquatic life with long lasting effects

Specific health risks

Neurotoxic substances

Substances with neurotoxic effects

NEUROTOXIC EFFECT	LEVEL
COLINÉRGICO	2

SOURCE

14

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	—	—	VLBa

Specific environmental risks

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).

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.