

Chemical Factsheet

1,3-Dichloropropene (Telone)

1,3-D

1,3-D is often formulated with chloropicrin both as a warning agent and to enhance plant pathogen and weed control.

General Information

- Product Names:
 - Telone** (Dow AgroSciences)
 - Inline** (Dow AgroSciences)
 - Cordon** (Dow AgroSciences)
 - Pic-Clor 6** (Soil Chemicals Corp)
 - Tri-Cal Trilone II** (Trical Inc)
 - Tri-Form** (Trical Inc)
- Chemical Class: Soil fumigant
- Uses: Broad spectrum soil fumigant to control various soil-borne diseases, nematodes, and/or garden symphyllans on a range of agricultural (fruiting, leafy, and root vegetable crops; legumes; corn and tobacco) and non-agricultural crops (ornamentals, non-bearing fruit/nut trees, forestry crops, lawns and turf, golf course). It also has drip irrigation uses on established vineyards.
- Alternatives: [Organic Agriculture](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Yes (1, 2, 3, 4)
- Endocrine Disruption: Not documented
- Reproductive Effects: Not documented
- Neurotoxicity: Not documented
- Kidney/Liver Damage: Yes (2)
- Sensitizer/ Irritant: Yes (2)
- Birth/Developmental: Not documented
- Detected in Groundwater: Yes (2, 5)
- Potential Leacher: Yes (2, 5)
- Toxic to Birds: Yes (2)
- Toxic to Fish/Aquatic Organisms: Yes (2)
- Toxic to Bees: Not documented

Additional Information

- Regulatory Status:
 - [EPA Registration Documents](#)
 - [BP Comments to CDPR \(November 2025\)](#)

- [EPA OIG Report \(May 2024\)](#)
- [Soil Fumigant Risk Assessments](#)
- [EPA Air Toxic Pollutants Website](#)
- [BP Comments to CDPR \(May 2023\)](#)
- Supporting information:
 - [NIOSH Pocket Guide to Chemical Hazards](#)
 - Agency for Toxic Substances and Disease Registry (ATSDR). 2008. [Toxicological Profile for 1,3-Dichloropropene](#). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.
 - [Strawberry Drip Fumigation](#). UC Pest Management Guidelines.
 - The Center for Investigative Reporting. [Dark Side of the Strawberry](#). RevealNews.org
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [National Toxicology Program \(NTP\). 2011. Report on Carcinogens, 13th Edition](#)
 - [Case report: Death caused by 1, 3-dichloropropene, a novel fumigant used in China](#). Zhou, Z., Guo, L., Wen, Z., Dai, P., Zhang, T., Wang, W. and Jian, X., 2023. *Frontiers in Public Health*, 11.
 - [Increasing confidence in new approach methodologies for inhalation risk assessment with multiple end point assays using 5-day repeated exposure to 1,3-dichloropropene](#). Paudel, I. et al. (2023) Increasing confidence in new approach methodologies for inhalation risk assessment with multiple end point assays using 5-day repeated exposure to 1,3-Dichloropropene, *Toxicology*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0300483X23002299>.
 - [Identification of volatile biomarkers for lung cancer from different histological sources: A comprehensive study](#). Lv, W. et al. (2024) Identification of volatile biomarkers for lung cancer from different histological sources: A comprehensive study, *Analytical Biochemistry*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S000326972400071X>.
 - [Impact of repeated fumigant applications on soil properties, crop yield, and microbial communities in a plastic-mulched tomato production system](#). Castellano-Hinojosa, A. et al. (2024) Impact of repeated fumigant applications on soil properties, crop yield, and microbial communities in a plastic-mulched tomato production system, *Science of The Total Environment*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0048969724007988>.
 - [Identifying Toxic Consumer Products: A Novel Data Set Reveals Air Emissions of Potent Carcinogens, Reproductive Toxicants, and Developmental Toxicants](#). Knox, K. et al. (2023) Identifying Toxic Consumer Products: A Novel Data Set Reveals Air Emissions of Potent Carcinogens, Reproductive Toxicants, and Developmental Toxicants, *Environmental Science & Technology*. Available at: <https://pubs.acs.org/doi/full/10.1021/acs.est.2c07247>.
 - [The association between 1,3-dichloropropene and asthma emergency department visits in California, USA from 2005 to 2011: a bidirectional-symmetric case crossover study](#). Gharibi, H. et al. (2019) The association between 1,3-dichloropropene and asthma emergency department visits in California, USA from 2005 to 2011: a bidirectional-symmetric case crossover study, *Journal of Asthma*. Available at: <https://www.tandfonline.com/doi/abs/10.1080/02770903.2019.1590596>.
 - [Soil chemical fumigation alters soil phosphorus cycling: effects and potential mechanisms](#). Wang, Y. and Tang, D.W.S. (2024) Soil chemical fumigation alters soil phosphorus cycling: effects and potential mechanisms, *Frontiers in Plant Science*. Available at: <https://www.frontiersin.org/journals/plant-science/articles/10.3389/fpls.2024.1289270/full>.

Gateway Health and Environmental Effects Citations

1. International Agency for Research on Cancer, World Health Organization (IARC) category, the agent (mixture) is possibly carcinogenic to humans. November 2, 2018.

<http://monographs.iarc.fr/ENG/Classification/index.php>

2. US EPA, Office of Prevention, Pesticides and Toxic Substances, Reregistration Eligibility Decisions (REDs), Interim REDs (iREDs) and RED Factsheets.

<https://archive.epa.gov/pesticides/reregistration/web/html/status.html>.

3. California Environmental Protection Agency. Proposition 65: Chemicals Known to the State to Cause Cancer or Reproductive Toxicity. Office of Environmental Health Hazard Assessment. February 25, 2022. <https://oehha.ca.gov/media/downloads/proposition-65/p65chemicalslistsingletable2021p.pdf>

4. U.S. Environmental Protection Agency Office of Inspector General Report: The EPA Needs to Improve the Transparency of Its Cancer-Assessment Process for Pesticides (July 20, 2022). Available at: <https://bp-dc.org/oigreport2022>.

5. National Library of Medicine. PubChem Hazardous Substances Database. [PubChem \(nih.gov\)](https://pubchem.ncbi.nlm.nih.gov)

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