California Fumigant Active Ingredients: 2023 Use and Current Registration

Scope: active ingredients with reported California fumigant use greater than zero in DPR's 2023 fumigant-use series and that remain listed in DPR's current active-ingredient database as of September 10, 2026. Carbon disulfide and diallyl disulfide had small 2023 reported use but are not currently listed as active ingredients, so they are excluded.

Active ingredient	CAS registry no.	2023 lb used	Current active CA products	Primary 2023 counties / concentration	Major 2023 CA uses / pattern
Potassium N-methyldithiocarbamate (metam-potassium)	137-41-7	8,633,739	3	Heavily concentrated in the San Joaquin Valley and Central Coast intensive-crop regions.	Pre-plant soil fumigant that generates MITC; major patterns include processing tomatoes, carrots, strawberries, onions, sweet potatoes, peppers and general pre-plant soil fumigation.
Chloropicrin	76-06-2	8,515,832	30	Strongly concentrated in the Central Coast and other intensive fumigant-use areas; Monterey, Santa Barbara and Ventura are major-use counties, with additional San Joaquin Valley use.	Pre-plant soil fumigant/fungicide, often alone or in mixtures with 1,3-D; especially strawberries, nurseries, vegetables and other high-value crops.
1,3-Dichloropropene (1,3-D / Telone)	542-75-6	7,023,406	19	San Joaquin Valley and Central Coast; especially Fresno/Merced/Kern and coastal fumigant-use counties such as Monterey, Santa Barbara and Ventura.	Pre-plant soil fumigant for nematodes and soil-borne disease; major uses include almonds/orchard replanting, strawberries, carrots, sweet potatoes, grapes and other high-value crops.
Sulfuryl fluoride	2699-79-8	3,071,223	4	Predominantly urban/structural use, especially Southern California population centers (Los Angeles, Orange, San Diego and surrounding counties), with use statewide.	Whole-structure fumigation for drywood termites and other wood-destroying pests; also certain commodity fumigation uses. DPR/CCST estimated 78,834 California structures were fumigated in 2023.
Metam-sodium	137-42-8	2,800,317	9	Concentrated in intensive vegetable/root-crop production areas, especially the San Joaquin Valley and some coastal production counties.	Pre-plant soil fumigant that generates methyl isothiocyanate (MITC); major patterns include carrots, potatoes, processing tomatoes, onions, peppers and strawberries.

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Methyl bromide	74-83-9	1,676,651	25	Use persists in multiple counties; important concentrations include quarantine/commodity fumigation in Los Angeles/port areas and nursery or exempted agricultural uses in counties such as Merced, Stanislaus, San Joaquin and Siskiyou.	Largely phased out for ordinary agricultural use, but still used under quarantine/pre-shipment and other exemptions; commodity/shipping fumigation, nursery/propagative material and some remaining soil fumigation.
Sulfur dioxide	7446-09-5	226,956	1	Strongly associated with California table-grape production and storage, particularly San Joaquin Valley grape counties such as Fresno, Kern and Tulare.	Post-harvest fumigation of table grapes to control fungal decay (especially Botrytis) during storage/handling.
Propylene oxide	75-56-9	168,176	1	Concentrated at food/commodity treatment and processing facilities rather than field applications.	Post-harvest/commodity fumigant and microbial-control treatment for certain processed foods, nuts, spices and related commodities.
Carbon dioxide	124-38-9	115,473	5	Scattered; use is tied more to storage/processing facilities than to field-crop acreage.	Controlled-atmosphere/commodity fumigation and pest suppression in stored products and enclosed spaces.
Aluminum phosphide	20859-73-8	83,696	15	Primarily agricultural/storage areas of the Central Valley, with additional use statewide.	Stored-commodity and space fumigation (grain, nuts, processed foods/feed); also burrowing-rodent control. Releases phosphine gas on contact with moisture.
Magnesium phosphide	12057-74-8	18,521	4	Primarily Central Valley agricultural/storage areas and commodity-handling facilities; some statewide use.	Stored-commodity and space fumigation; generates phosphine gas. Also labeled on some products for burrowing-rodent control.
Phosphine	7803-51-2	15,380	4	Commodity-storage/processing areas, including Central Valley and port/warehouse locations.	Direct phosphine-gas fumigation of stored agricultural commodities, food/feed and enclosed storage/processing spaces.

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Dazomet	533-74-4	11,078	19	Low-volume and geographically scattered compared with the major soil fumigants.	Soil/plant-bed fumigation and sterilant uses in nurseries, turf/landscape and pre-plant settings; some registered products also have industrial antimicrobial/preservative uses.

Notes and sources

- 2023 pounds: California DPR, Pesticide Use Annual Report 2023, 'Use Trends of Fumigants: Pounds Applied.'
- Current product counts: California DPR Product/Label Database, 'Actively Registered Active Ingredients by Common Name,' checked September 10, 2026. Counts are products containing the AI, not necessarily only products whose fumigant use drove the 2023 PUR total.
- County/concentration and use-pattern descriptions are concise syntheses of 2023 PUR patterns, DPR fumigant materials, labels, and California use literature; they are not exhaustive county rankings.
- DPR 2023 fumigant pounds source: https://www.cdpr.ca.gov/wp-content/uploads/2025/08/2023_fumigants_pounds_applied.pdf
- DPR current active ingredient/product counts: https://apps.cdpr.ca.gov/docs/label/actai.cfm
- DPR 2023 annual report: https://www.cdpr.ca.gov/wp-content/uploads/2025/08/2023_pur_annual_report.pdf