

8M ☒ ☐ ☐ ☐

SR-1,3-Dichloropropene

QUALITATIVE USAGE ESTIMATES FOR 1,3-DICHLOROPROPENE

Case #: 0328 PC Code: 29001 Analyst: S. Zavolta May 8, 1997

3PP

1,3-dichloropropene (Telone®) is a soil fumigant principally used as a pre-plant nematocide in the agricultural sector for food and non-food uses. For some sites, 1,3-dichloropropene also serves as an insecticide, a herbicide and a fungicide. Telone®II and Telone®C-17 are the main products containing 1,3-dichloropropene. Telone®C-17 combines 1,3-dichloropropene with chloropicrin, which is a gas that may serve as a warning agent because of its strong odor.

A wide variety of vegetable, field and fruit and nut crops are registered for 1,3-dichloropropene use. Irish and sweet potatoes, cotton, tobacco, onions, peppers, carrots, melons, cauliflower and lettuce are crops receiving annual applications. Peaches, apples, some citrus, almonds, grapes, pineapple and walnut are some of the perennial fruit and nut trees and vine crops that growers apply 1,3-dichloropropene as a pre-plant nematocide.

Domestic growers applied annually an average of 37 million lbs. of a.i. of Telone® on an average of 335 thousand acres. U.S. growers applied the largest quantities of the chemical to Irish potato acreage. About one-third of the Telone® usage is applied to Irish potato acres annually. Even though Telone® was applied to an average 80,000 acres, this represents only 6% of the U.S. total potato acres. Other sites that growers applied the largest quantities of Telone® included tobacco, sugar beets, cucurbits and melons, cotton, roots and tubers (sweet potatoes), pineapples, and fruit trees. Pineapple and tobacco comprised the sites with more than 10% of the crops acreage treated Telone®. The remaining usage of Telone® is applied on a variety of fruits and vegetables. 1,3-dichloropropene is registered for use on over 200 sites. Sites excluded from the usage table and the crop groupings have no known usage according to the databases available.

Prior to 1991, growers in California purchased the largest volume of Telone®, with 30 to 35% of the domestic market. Use permits were suspended in 1991 and reinstated on a limited basis with restrictions in 1994. Telone® usage for growers in California averaged about 5.0 million pounds a.i. annually between 1994 and 1995.

RECEIVED

1,3-dichloropropene		Case #: 0328	PC Code: #29001		Analyst: Sandy Zavolta		dichlor6.WP5		May 8-97		
Site*	Acres (000) Grown	Acres Treated (000)		% of Crop Treated		Lb AI Applied (000)		Application Rates		States of Most Usage	
		Likely Average	Likely Max	Likely Average	Likely Max	Likely Average	Likely Max	lb ai/ acre/yr	# appl /year		lb ai/A /appl
Beans/Peas, Dry	2,189	1	2	0%	0%	10	20	10.0	1.0	10.0	CA
Beans/Peas, Green	718	2	4	0%	1%	20	40	10.0	1.0	10.0	CA, GA
Berries	155	1	4	1%	3%	80	170	80.0	1.0	80.0	NJ, CA
Citrus	949	1	2	0%	0%	200	500	200.0	1.0	200.0	FL, TX, CA
Carrots	114	3	4	3%	4%	400	500	133.0	1.0	133.0	CA, WA, TX
Cole Crops	276	11	22	4%	8%	900	1,800	80.0	1.0	80.0	AZ, TX, GA, SC, NC
Cotton	14,699	30	60	1%	2%	1,400	3,000	47.0	1.0	47.0	AZ, NC, GA, FL, CA
Curcubits & Melons	823	15	30	2%	4%	800	1,600	53.3	1.0	53.3	TX, AZ, SC, NC, GA
Fruit trees	1,454	3	5	1%	2%	1,400	2,600	100.0	1.0	100.0	WA, SC, NC, MI, NJ
Apples	549	1	1	1%	1%	150	375	50.0	1.0	50.0	NJ, MI, WA
Cherries	130	1	1	2%	5%	200	400	66.7	1.0	66.7	MI
Peaches	223	1	1	2%	4%	600	1,500	150.0	1.0	150.0	SC, NC
Plums	127	0	1	0%	1%	25	50	0.0	1.0	10.0	CA
Grapes	758	1	2	0%	0%	10	20	10.0	1.0	10.0	CA
Leafy Vegetables, Other	88	0.5	1	1%	1%	10	25	20.0	1.0	20.0	CA, NY
Lettuce	271	1	4	0%	1%	55	175	55.0	1.0	55.0	NY, NJ, AZ, CA
Nut Trees	1,162	1	2	0%	0%	5	10	5.0	1.0	5.0	CA
Almond	422	0.5	1	0%	0%	2	4	5.0	1.0	5.0	CA
Walnuts	205	0.5	1	0%	0%	2	4	5.0	1.0	5.0	CA
Onions	103	5	10	5%	10%	1,000	2,000	200.0	1.0	200.0	OR, WA, ID
Ornamentals	n/a	0	1	n/a	n/a	1	2	n/a	1.0	n/a	un
Peanuts	1,655	12	25	1%	2%	700	1,900	58.3	1.0	58.3	AL, GA, TX
Peppers	115	16	19	15%	16%	2,700	4,600	168.0	1.0	168.0	NM, NC, CA
Pineapple	36	5	7	19%	26%	1,300	2,600	260.0	1.0	260.0	HI
Potatoes, Irish	1,401	80	95	6%	7%	13,500	17,000	168.8	1.0	168.8	WA, ID, OR, CO, ND
Roots/Tubers	249	20	35	8%	14%	1,500	3,000	75.0	1.0	75.0	TX, SC
Sugarbeets	1,452	45	55	3%	4%	4,000	5,500	88.9	1.0	88.9	NE, WY, CO, ID
Tobacco	698	80	102	11%	15%	7,200	9,000	90.0	1.0	90.0	NC, SC, GA
Tomatoes	478	2	5	0%	1%	200	800	100.0	1.0	100.0	GA, AL, FL
Total		335	500			37,400	56,870				

NOTES

*All other labeled sites not included in the list above or in one of the categories has no known usage based on the available databases and DCI data. Less than 10,000 pounds was applied to 1,000 acres of corn once between 1987 and 1996. This was not included in the table because it appeared to be an error and was not known as a typical use of 1,3-dichloropropene.

Calculations of the above numbers may not appear to agree because they are displayed as rounded.

0 = < 500 acres treated or lb. a.i. because of rounding to the nearest 1000.
0% = < 0.5% because of rounding to the nearest whole percentage point.
un = unknown
n/a = not available

Usage data primarily covers 1990 - 1995 for most sites and as early as 1987 for some sites. U.S. total includes California usage data for 1994 and 1995.

Likely averages are based on weighted averages of data with most recent years and more reliable data weighted more heavily.
Likely maximums are an amount above which the actual usage is unlikely to be.
Application rates are calculated from likely averages or are based on typical rather than maximum rates.

**** Other/Crop Groups**

Berries include blueberry, blackberry, boysenberry, loganberry, raspberry, and strawberry.

Citrus includes grapefruit, kumquats, lemons, limes, oranges, tangelos, and tangerines.

Cole Crops include broccoli, Brussels sprouts, cabbage, cauliflower, mustard greens, collards, bok choy, and chard.

Leafy Vegetables other include celery, kale, parsley, mint, and spinach.

Cucurbits and Melons include cucumber, squash, pumpkin, cantaloupe, watermelon, honeydew, muskmelon, and winter melon.

Root and Tuber crops include red beets, carrots, horseradish, parsnips, radish, rutabagas, sweet potatoes, turnips, and yams.

Fruit Trees include apple, pear, fig, apricot, peach, persimmons, cherries, dates, plums, and prunes.

Nut Trees include almonds, cashews, chestnuts, filberts, hazelnuts, hickory nuts, macadamia nuts, pistachios, lychee nuts, palm, and walnuts.

SOURCES: EPA data, USDA, National Center for Food and Agricultural Policy and DowElanco DCI data.

393