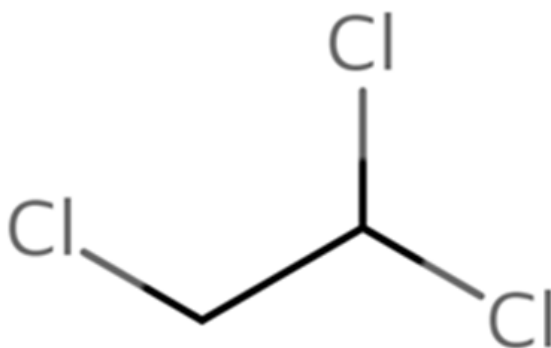

**Draft Data Quality Evaluation and Data Extraction Information for
Environmental Fate and Transport for
1,1,2-Trichloroethane**

Systematic Review Support Document for the Draft Risk Evaluation

CASRN: 79-00-5



May 2026

This supplemental file contains information regarding the data extraction and evaluation results for data sources that were considered for the *Draft Risk Evaluation for 1,1,2-Trichloroethane* that underwent systematic review. EPA used the TSCA systematic review process described in the *Draft Systematic Review Protocol Supporting TSCA Risk Evaluations for Chemical Substances* (also referred to as the '2021 Draft Systematic Review Protocol'). The systematic review steps are further described in the *Draft Systematic Review Protocol for 1,1,2-Trichloroethane*. EPA conducted data extractions and data quality evaluations based on author-reported descriptions and results; additional analyses (*e.g.*, statistical analyses) potentially conducted by EPA are not contained in this supplemental file. Additionally, the overall quality determination (OQD) for each reference represents the data as a whole for each study, and not for individual metric domains within a study.

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HERO ID	Reference	Page
Photolysis in Air		
59297	Dilling, W. L., Bredeweg, C. J., Tefertiller, N. B. (1976). Organic photochemistry: Simulated atmospheric photodecomposition rates of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, tetrachloroethylene, and other compounds. <i>Environmental Science & Technology</i> 10(4):351-356.	7
1579708	Dow Chemical, (1982). Environmental fate and effect of chlorinated solvents (Part C).	10
5452512	Taylor, P. H., Zhen, J. A., Dellinger, B. (1992). Laser photolysis laser-induced fluorescence studies of the reaction of hydroxyl with 1,1,2-trichloroethane over an extended temperature-range. <i>Journal of Physical Chemistry</i> 96(3):1293-1296.	12
6406226	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.	14
Hydrolysis		
661759	Jeffers, P. M., Coty, P., Luczak, S., Wolfe, N. L. (1994). Halocarbon hydrolysis rates: A search for ionic strength and heterogenous effects. <i>Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering</i> 29(4):821-831.	16
661098	Jeffers, P. M., Ward, L. M., Woytowitch, L. M., Wolfe, N. L. (1989). Homogeneous hydrolysis rate constants for selected chlorinated methanes, ethanes, ethenes, and propanes. <i>Environmental Science & Technology</i> 23(8):965-969.	18
5465182	Miyamoto, K., Urano, K. (1996). Reaction rates and intermediates of chlorinated organic compounds in water and soil. <i>Chemosphere</i> 32(12):2399-2408.	20
6629789	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.	22
5185306	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.	26
Photolysis in Water		
658815	Haag, W. R., Yao, C. C. D. (1992). Rate constants for reaction of hydroxyl radicals with several drinking water contaminants. <i>Environmental Science & Technology</i> 26(5):1005-1013.	28
Photolysis in Soil		
Biodegradation in Water		
5476273	Basu, D., Gupta, S. K. (2012). Performance of upflow anaerobic sludge blanket (UASB) reactor treating simulated wastewaters containing 1,1,2-trichloroethane and 1,1,2,2-tetrachloroethane. <i>International Journal of Environment and Waste Management</i> 9(1-2):181-190.	30
1742857	Chang, Y. C., Hatsu, M., Jung, K., Yoo, Y. S., Takamizawa, K. (1998). Degradation of a variety of halogenated aliphatic compounds by an anaerobic mixed culture. <i>Journal of Fermentation and Bioengineering</i> 86(4):410-412.	33
10609982	Dow Chemical, (2001). [Redacted] Intrinsic biodegradation of chlorinated solvents in aquifer microcosms from the Altona Chemical Complex, Altona, Australia.	35
4215582	Dow Chemical, (2000). Introductory study of the biodegradation of the chlorinated methane, ethane and ethene compounds: Progress report CR806890-01 coop agreement.	38
5443549	Enzminger, J. D. (1988). Anaerobic reductive dechlorination of C2 hydrocarbons in batch and fixed-film bioreactors.	40
664358	Huff, G. F., Braun, C. L., Lee, R. W. (2000). Assessment of potential for natural attenuation of chlorinated ethenes and ethanes in ground water at a petrochemical reclamation site, Harris County, Texas.	42
659065	Hunkeler, D., Aravena, R., Cox, E. (2002). Carbon isotopes as a tool to evaluate the origin and fate of vinyl chloride: Laboratory experiments and modeling of isotope evolution. <i>Environmental Science & Technology</i> 36(15):3378-3384.	44

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5258494	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.	47
6629789	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.	53
7681897	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.	61
5176387	OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.	67
5185306	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.	69
4697082	Patterson, B. M., Lee, M., Bastow, T. P., Wilson, J. T., Donn, M. J., Furness, A., Goodwin, B., Manefield, M. (2016). Concentration effects on biotic and abiotic processes in the removal of 1,1,2-trichloroethane and vinyl chloride using carbon-amended ZVI. Journal of Contaminant Hydrology 188:1-11.	71
9861	Tabak, H. H., Quave, S. A., Mashni, C. I., Barth, E. F. (1981). Biodegradability studies with organic priority pollutant compounds. Journal of Water Pollution Control Federation 53(10):1503-1518.	74
645784	Van Eekert, M. H., Stams, A. J., Field, J. A. (1999). Gratuitous dechlorination of chloroethanes by methanogenic granular sludge. Applied Microbiology and Biotechnology 51(1):46-52.	76
5440645	Yang, J., Zhang, Q., Fu, X., Chen, H., Hu, P., Wang, L. (2019). Natural attenuation mechanism and health risk assessment of 1,1,2-trichloroethane in contaminated groundwater. Journal of Environmental Management 242:457-464.	78
Biodegradation in Sediment		
3572391	Chen, C., Puhakka, J. A., Ferguson, J. F. (1996). Transformations of 1,1,2,2-tetrachloroethane under methanogenic conditions. Environmental Science & Technology 30(2):542-547.	80
6629789	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.	82
Biodegradation in Soil		
6629789	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.	84
Aquatic Bioconcentration		
5176387	OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.	92
5185306	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.	94
Terrestrial Bioconcentration		
Adsorption and Desorption		
661063	Cabbar, C., Dogu, G., Dogu, T., McCoy, B. J., Smith, J. M. (1994). Analysis of diffusion and sorption of chlorinated hydrocarbons in soil by single-pellet moment technique. Environmental Science & Technology 28(7):1312-1319.	96
5437872	Finlayson, J. C., Liao, B., Droppo, I. G., Leppard, G. G., Liss, S. N. (1998). The relationship between the structure of activated sludge flocs and the sorption of hydrophobic pollutants. Water Science and Technology 37(4):353-357.	98
661088	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.	100
659072	Kommalapati, R. R., Valsaraj, K. T., Constant, W. D. (2002). Soil-water partitioning and desorption hysteresis of volatile organic compounds from a Louisiana Superfund site soil. Environmental Monitoring and Assessment 73(3):275-290.	104
2129099	Meng, F. Y., Liu, R., Kobayashi, T., Wan, M., Yu, S. L., Chen, L. J. (2012). Study on equilibrium adsorption of volatile chlorinated hydrocarbons on humid soils. Huanjing Kexue / Chinese Journal of Environmental Science 33(4):1361-1368.	106

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5440801	Mokrauer, J. E., Kosson, D. S. (1989). Electrophysical sorption of two carbon halogenated solvents onto soil. Environmental Progress 8(4):279-283.	108
7681897	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.	110
1486725	Poole, S. K., Poole, C. F. (1996). Model for the sorption of organic compounds by soil from water. Analytical Communications 33(12):417-419.	112
645740	Poole, S. K., Poole, C. F. (1999). Chromatographic models for the sorption of neutral organic compounds by soil from water and air. Journal of Chromatography A 845(1-2):381-400.	114
5159900	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.	116
6406226	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.	121
4213876	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.	123
661142	Valsaraj, K. T., Kommalapati, R. R., Robertson, E. D., Constant, W. D. (1999). Partition constants and adsorption-desorption hysteresis for volatile organic compounds on soil from a Louisiana Superfund site. Environmental Monitoring and Assessment 58(2):225-241.	131
3797830	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.	134
Miscellaneous		
3545568	Beltran, F. J., Gonzalez, M., Rivas, J., Acedo, B. (1999). Aqueous degradation of VOCs in the ozone combined with hydrogen peroxide or UV radiation processes - 1. Experimental results. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering 34(3):649-671.	136
659813	Bhattacharya, S. K., Madura, R. L., Dobbs, R. A., Angara, R. V. R., Tabak, H. (1996). Fate of selected RCRA compounds in a pilot-scale activated sludge system. Water Environment Research 68(3):260-269.	138
4271904	Chao, H. P., Hsieh, L. C., Tran, H. N. (2018). Increase in volatilization of organic compounds using air sparging through addition in alcohol in a soil-water system. Journal of Hazardous Materials 344:942-949.	140
1973123	Dow Chemical, (1983). Nonenymatic reductive dechlorination of chlorinated methanes and ethanes in aqueous solution with cover letter.	142
661088	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.	144
1269556	Midwest Research Institute, (1984). Performance evaluation of full-scale hazardous waste incinerators - Volume I (excutive summary) contract no. 68-02-3177 (43).	150
4214180	Monsanto, (1987). Monsanto Pensacola plant ground water assessment feasibility study with 19 chemicals with attachments and cover letter dated 121887.	152
1265686	(1982). Fate of Priority Pollutants in Publicly Owned Treatment Works, Volume I.	154
6629789	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.	156
5185306	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.	160
6406226	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.	162
647200	Washington, J. W. (1996). Gas partitioning of dissolved volatile organic compounds in the vadose zone: Principles, temperature effects and literature review. Groundwater 34(4):709-718.	164
3797830	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.	166

Other Properties

1,1,2-Trichloroethane

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Study Citation:	Dilling, W. L., Bredeweg, C. J., Tefertiller, N. B. (1976). Organic photochemistry: Simulated atmospheric photodecomposition rates of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, tetrachloroethylene, and other compounds. Environmental Science & Technology 10(4):351-356.
OECD Harmonized Template:	Photolysis in Air
HERO ID:	59297

Parameter		EXTRACTION		
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	None; Experimental; other: Non-guideline study of photolysis under simulated atmospheric conditions.			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; Liquid; NR Notes: Free of impurities by GC analysis			
Duration and Test Temperature	7.0 hours; 27±1°C			
Light Source, Intensity, and additional light details	Sunlamp; UV light intensity was ca. 2.6 times that of natural sunlight at noon on a summer day in TX; General Electric 275-W reflector sunlamp			
Source Wavelength Lower and Upper	290 nm; Not reported			
Test Details and Control	relative humidity 35-40% initially, reactions run at 35% RH; gas samples analyzed periodically, the first sample taken prior to turning on lamps; Not reported			
Initial Concentration, Reference Compound	test concentration: 10 ppm in air; 5 ppm NO ppm; Not reported			
Substance Wavelength Lower and Upper	Not reported; Not reported			
Direct Quantum Yield Results, Direct Half Life by Loss Lower and Upper	Not reported; Not reported; Not reported			
Indirect Type Results, Indirect Rate Constant Lower and Upper	Photodegradation by reaction with nitrous oxide; Not reported; Not reported			
Method Details Results and Products	rates of disappearance determined by GC-FID; Not reported			
Details Results				
Parameter Value and Parameter Results	15.9 hours; half-life			
Reference Substance Results, Percent Degradation Results and Standard	Not reported; Not reported; Not reported			
Deviation Results				
Results Remarks, Sample time Results, Results Details	Half-life extrapolated from results of 22% reaction after 7.0 hours; Not reported; Not reported			
		EVALUATION		
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was definitively identified.
	Metric 2:	Test Substance Purity	High	The test substance source and specific purity was not reported; however, GC confirmed test material was free from impurities.
Domain 2: Test Design	Metric 3:	Study Controls	Low	Controls are not reported; making it difficult to interpret the role of nitrogen oxides in disappearance of the test substance relative to the role of hydroxyl radicals that will be produced under the experimental conditions.

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Study Citation:	Dilling, W. L., Bredeweg, C. J., Tefertiller, N. B. (1976). Organic photochemistry: Simulated atmospheric photodecomposition rates of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, tetrachloroethylene, and other compounds. Environmental Science & Technology 10(4):351-356.			
OECD Harmonized Template:	Photolysis in Air			
HERO ID:	59297			
Domain		Metric	EVALUATION Rating	Comments
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Low	Initial nitrous oxide concentration are an of magnitude higher than environmental concentrations. Lack of monitoring of nitrous oxide concentration, and likely interaction between OH radicals and nitrogen oxides, leaves significant uncertainties regarding their role in the test substance disappearance and applicability to environmentally relevant conditions.
	Metric 7:	Testing Consistency	High	Test conditions were consistent.
	Metric 8:	System Type and Design	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	N/A	Sampling intervals were not reported but their omission was not likely to have influenced the results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The target chemical and transformation product(s) concentrations, extraction efficiency, percent recovery, or mass balance were not reported; however, these omissions were not likely to have a substantial impact on study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	Low	Statistical analysis or kinetic calculations were not described clearly.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results were reasonable.
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Study Citation:	Dilling, W. L., Bredeweg, C. J., Tefertiller, N. B. (1976). Organic photochemistry: Simulated atmospheric photodecomposition rates of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, tetrachloroethylene, and other compounds. Environmental Science & Technology 10(4):351-356.
OECD Harmonized Template:	Photolysis in Air
HERO ID:	59297

		EVALUATION	
Domain	Metric	Rating	Comments
	Metric 18:	QSAR Models	N/A The metric is not applicable to this study type.

Overall Quality Determination	Low
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Study Citation:	Dow Chemical, (1982). Environmental fate and effect of chlorinated solvents (Part C).
OECD Harmonized Template:	Photolysis in Air
HERO ID:	1579708

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: photochemical reactivity with NO in air
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; pure by GC
Duration and Test Temperature	6-8 hours (reported as equivalent to 2-3 days of intense noon-time sun for 6 hr/day); 26-28°C
Light Source, Intensity, and additional light details	Sunlamp; ca. 90 E-vitons/cm ² ; Two General Electric 275 watt reflector sunlamps
Source Wavelength Lower and Upper	>290 nm; Not reported
Test Details and Control	Reaction carried out with 35% relative humidity under atmospheric pressure; initial NO concentration = 5 ppm; first samples analyzed, before the lamps were turned on (dark control), were used as standards for subsequent test sample comparison; disappearance during the reaction was then determined directly from reduction in peak height or area; Dark control included
Initial Concentration, Reference Compound	10 ppm; Not reported
Substance Wavelength Lower and Upper	Not reported; Not reported
Direct Quantum Yield Results, Direct Half Life by Loss Lower and Upper	Not reported; Not reported; Not reported
Indirect Type Results, Indirect Rate Constant Lower and Upper	Not reported; Not reported; Not reported
Method Details Results and Products	GC with FID; detection limits not determined but assumed to be 0.1 to 1 ppm or less; Not reported
Details Results	
Parameter Value and Parameter Results	% disappearance of; 22%/7.0 hours (measured 5.9 hours (estimated half-life for reaction with NO); 50%/1 hour with NO)
Reference Substance Results, Percent Degradation Results and Standard	Not reported; Not reported; Not reported
Deviation Results	
Results Remarks, Sample time Results, Results Details	Not reported; Not reported; Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified clearly.
	Metric 2:	Test Substance Purity	High	The test substance source was reported and distilled prior to use.
Domain 2: Test Design	Metric 3:	Study Controls	High	Dark controls were reported.
	Metric 4:	Test Substance Stability	Low	Details regarding this metric were not reported.

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Study Citation:		Dow Chemical, (1982). Environmental fate and effect of chlorinated solvents (Part C).		
OECD Harmonized Template:		Photolysis in Air		
HERO ID:		1579708		
Domain		Metric	EVALUATION	
			Rating	Comments
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Testing conditions were reported and appropriate.
	Metric 7:	Testing Consistency	High	There were no inconsistencies reported in the testing conditions.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	The sampling methods were reported and appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of uncertainty in sampling were described and discussed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Data reporting was appropriate; mass balance and recoveries were not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to the study type.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination			High	

Study Citation:	Taylor, P. H., Zhen, J. A., Dellinger, B. (1992). Laser photolysis laser-induced fluorescence studies of the reaction of hydroxyl with 1,1,2-trichloroethane over an extended temperature-range. Journal of Physical Chemistry 96(3):1293-1296.
OECD Harmonized Template:	Photolysis in Air
HERO ID:	5452512

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: Laser photolysis
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; >99.9% Notes: 1,1,2-TCE was acid-washed followed by fractional distillation.
Duration and Test Temperature	Not reported; 295-850 K
Light Source, Intensity, and additional light details	Not reported; Pump laser intensities: 2-4 mJ/cm ² ; Not Reported
Source Wavelength Lower and Upper	193 nm; Not reported
Test Details and Control	1,1,2-TCE/N ₂ O/H ₂ O/He gas mixture filled reactor for 45-90s before measurement. Experiment performed at 740±10 torr.; Not reported
Initial Concentration, Reference Compound	Not reported Not reported; Not reported
Substance Wavelength Lower and Upper	Not reported; Not reported
Direct Quantum Yield Results, Direct Half Life by Loss Lower and Upper	Not reported; Not reported; Not reported
Indirect Type Results, Indirect Rate Constant Lower and Upper	Not reported; Rate constant at 295 K (in cm ³ molecule ⁻¹ s ⁻¹): 1.84±0.07x10 ⁻¹³ ; Rate constant at 299 K (in cm ³ molecule ⁻¹ s ⁻¹): 1.96±0.06x10 ⁻¹³ ; at 325 K: 2.70±0.15x10 ⁻¹³
Method Details Results and Products	Not reported; Not reported
Details Results	
Parameter Value and Parameter Results	Not reported; Not reported
Reference Substance Results, Percent Degradation Results and Standard	Not reported; Not reported; Random error limits (2σ): generally less than ±10%
Deviation Results	
Results Remarks, Sample time Results, Results Details	Not Reported; Not Reported; Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified using common nomenclature.
	Metric 2:	Test Substance Purity	High	The test substance purity was reported and appropriate.
Domain 2: Test Design	Metric 3:	Study Controls	High	Blank controls were utilized to observe OH decay rates in the absence of reactant.
	Metric 4:	Test Substance Stability	High	The test substance stability was reported and appropriate.
Domain 3: Test Conditions				

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Study Citation:	Taylor, P. H., Zhen, J. A., Dellinger, B. (1992). Laser photolysis laser-induced fluorescence studies of the reaction of hydroxyl with 1,1,2-trichloroethane over an extended temperature-range. Journal of Physical Chemistry 96(3):1293-1296.			
OECD Harmonized Template:	Photolysis in Air			
HERO ID:	5452512			
Domain		Metric	EVALUATION	
			Rating	Comments
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Testing conditions were reported and appropriate.
	Metric 7:	Testing Consistency	High	There were no inconsistencies reported in the testing conditions.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	The sampling methods were reported and appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of uncertainty were clearly described and discussed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The data reporting was appropriate.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical analysis and kinetic calculations were clearly described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results are reasonable as compared to other reported values.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

Overall Quality Determination**High**

* Related References: Cited in ECHA

Study Citation:	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.			
OECD Harmonized Template:	Photolysis in Air			
HERO ID:	6406226			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; Not Reported			
Confidentiality, Type, Guideline	Not Reported; experimental; Not Reported			
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported			
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported			
Duration and Test Temperature	Not Reported; Not Reported			
Light Source, Intensity, and additional light details	Not Reported; Not Reported; Not Reported			
Source Wavelength Lower and Upper	Not Reported; Not Reported			
Test Details and Control	Not Reported; Not Reported			
Initial Concentration, Reference Compound	Not Reported Not Reported; Not Reported			
Substance Wavelength Lower and Upper	Not Reported; Not Reported			
Direct Quantum Yield Results, Direct Half Life by Loss Lower and Upper	Not Reported; Not Reported; Not Reported			
Indirect Type Results, Indirect Rate Constant Lower and Upper	Atmospheric lifetime: ca. 1 year; Not Reported; Not Reported			
Method Details Results and Products Details Results	Not Reported; oxidation products: formyl chloride (44%), phosgene, chloroacetyl chloride			
Parameter Value and Parameter Results	Not Reported; Not Reported			
Reference Substance Results, Percent Degradation Results and Standard Deviation Results	Not Reported; Not Reported; Not Reported			
Results Remarks, Sample time Results, Results Details	Not Reported; Not Reported; photooxidation was reported as rapid			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this study type.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this study type.
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Study Citation:	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.			
OECD Harmonized Template:	Photolysis in Air			
HERO ID:	6406226			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this study type.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this study type.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this study type.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this study type.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Uninformative	Limited detail on study, results were an estimation based on reactivity compared to 1,1,1-isomer; primary source cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination

Uninformative

* Related References: Source cited: Spence and Hanst 1978. Oxidation of chlorinated ethanes. J. Air. Pollut. Control. Assoc. 28: 250-253, 1978 (not available at time of extraction)

Study Citation:	Jeffers, P. M., Coty, P., Luczak, S., Wolfe, N. L. (1994). Halocarbon hydrolysis rates: A search for ionic strength and heterogenous effects. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering 29(4):821-831.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	661759			

EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	None; Experimental; other: Salt effects on hydrolysis			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR Notes: 1,1,2-TCA			
Buffer, Test Temperature, Number of Replicates	NaOH; 64°C; Not reported			
Positive Controls and Negative Controls	Positive: Not reported; Negative: Not reported			
pH and Duration	12 (0.01M NaOH); Not reported			
Sampling Frequency and Test Setup	Not reported; DI water and Long Island Sound (NY) seawater (0.5 M salt)			
Concentration	Not Reported			
Analytical Method, Analytical Details, and Statistics	Not reported; Not reported; Not reported			
Transformation Products	Not reported			
Reference Substance and Reference Substance Results	Not reported; Not reported			
Percent Recovery, Hydrolysis Rate Constant, and Half-life	Not reported; 20.4 L/mole-min; Not reported			
Results Remarks	Not reported			

EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	Low	The test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Uninformative	Study controls were not included. Not clear if volatilization was considered.
	Metric 4:	Test Substance Stability	Low	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Low	There were multiple omissions in testing conditions.
	Metric 7:	Testing Consistency	N/A	Not applicable; multiple study groups were not reported.

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Study Citation:	Jeffers, P. M., Coty, P., Luczak, S., Wolfe, N. L. (1994). Halocarbon hydrolysis rates: A search for ionic strength and heterogenous effects. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering 29(4):821-831.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	661759			
Domain	Metric	EVALUATION		Comments
	Metric 8:	System Type and Design	Rating Medium	Details regarding the system type and design were limited; however, the omissions were not likely to have had a substantial impact on the study results.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	There was incomplete reporting of outcome assessment methods; limited detail with respect to target chemical.
	Metric 12:	Test Substance Purity	Low	Details regarding sampling methods of the outcome(s) were not fully reported; not clear if volatilization was considered.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Limited detail on outcome assessment and no detail on analytical methods.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited detail; no controls limited the verification of results.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		Uninformative		

Study Citation:	Jeffers, P. M., Ward, L. M., Woytowitch, L. M., Wolfe, N. L. (1989). Homogeneous hydrolysis rate constants for selected chlorinated methanes, ethanes, ethenes, and propanes. Environmental Science & Technology 23(8):965-969.
OECD Harmonized Template:	Hydrolysis
HERO ID:	661098

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: Neutral and base catalyzed hydrolysis; a range of pH and temperature evaluated. Arrhenius temperature dependence assumed.
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Either Aldrich, Eastman, Pfaltz or Bauer (generalized for all substances tested); NR; Highest purity available Notes: 112-TCA
Buffer, Test Temperature, Number of Replicates	0.1 M pH 7 phosphate buffer or dilute NaOH or HCl solutions as necessary to achieve the desired conditions; 50-170°C; 5-20 time-concentration points analyzed in triplicate
Positive Controls and Negative Controls	Positive: Not reported; Negative: Not reported
pH and Duration	3-12; 30 min to several days (for all test materials; specific duration for tetrachloroethylene not specified)
Sampling Frequency and Test Setup	Not reported; zero dead-volume stainless steel tubes, glass bulbs drawn from 7-mm-o.d. borosilicate tubing, or zero dead-volume septum vial capped with a Teflon-lined septum
Concentration	Final solutions were less than 10% saturated with organic test material -
Analytical Method, Analytical Details, and Statistics	GC using aqueous on-column injections with FID, ECD and/or HELCD; Details specific to target were not reported; r squared >0.95
Transformation Products	1,2-dichloroethane (alkaline hydrolysis)
Reference Substance and Reference Substance Results	NR; several test substances included; Not reported
Percent Recovery, Hydrolysis Rate Constant, and Half-life	Not reported; k neutral=5.19E-11/min; k basic=9.42E-9/min; k observed=9.47E-9/min; 139.2 years
Results Remarks	k observed=k neutral + k basic

EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by chemical name and CASRN.
	Metric 2:	Test Substance Purity	Medium	The source and purity of the test substance were stated in a general manner relating to all materials in the study.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Study controls were not included but this did not limit the interpretation of the results.
	Metric 4:	Test Substance Stability	Medium	Details regarding this metric were limited but this did not limit the interpretation of the results.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The method was suitable for the substance; test substance concentration was no higher than 10% of its water solubility limit.

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Study Citation:	Jeffers, P. M., Ward, L. M., Woytowitz, L. M., Wolfe, N. L. (1989). Homogeneous hydrolysis rate constants for selected chlorinated methanes, ethanes, ethenes, and propanes. Environmental Science & Technology 23(8):965-969.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	661098			
Domain		Metric	EVALUATION Rating	Comments
	Metric 6:	Testing Conditions	Medium	Details regarding this metric were general but this did not limit the interpretation of the results.
	Metric 7:	Testing Consistency	Medium	Details regarding this metric were general but this did not limit the interpretation of the results.
	Metric 8:	System Type and Design	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 12:	Test Substance Purity	Medium	Details regarding this metric were not reported but this did not limit the interpretation of the results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Details regarding the analytical procedure were very general; this may limit precise interpretation of the results.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination**High**

* Related References: Data included in PubMed HSDB profile

Study Citation:	Miyamoto, K., Urano, K. (1996). Reaction rates and intermediates of chlorinated organic compounds in water and soil. Chemosphere 32(12):2399-2408.
OECD Harmonized Template:	Hydrolysis
HERO ID:	5465182

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: Hydrolysis of 1,1,2-trichloroethane
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Buffer, Test Temperature, Number of Replicates	HCl or NaOH; 15°C; Not reported
Positive Controls and Negative Controls	Positive: Not reported; Negative: Not reported
pH and Duration	9; Approximately 70 hours
Sampling Frequency and Test Setup	Not reported; Vials were temperature controlled in a water bath and continuously stirred using a magnetic stir bar.
Concentration	Not Reported
Analytical Method, Analytical Details, and Statistics	GC-MS (Shimadzu model QP-2000) with a fused silica capillary column (Shimadzu CBP-5); Not reported; Not reported
Transformation Products	Not reported
Reference Substance and Reference	Not reported; Not reported
Substance Results	
Percent Recovery, Hydrolysis Rate	Not reported; Not reported; 37 years
Constant, and Half-life	
Results Remarks	Arrhenius parameters at pH 9: A (l((mol*h)): 2.13x10^19E (kJ/mol): 108

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1: Test Substance Identity	High	The test substance was identified using common nomenclature.
	Metric 2: Test Substance Purity	Medium	The test substance purity was not reported but the omission is unlikely to have a substantial impact on the study results.
Domain 2: Test Design			
	Metric 3: Study Controls	Medium	No study controls were reported but the omission is unlikely to have a substantial impact on the study results.
	Metric 4: Test Substance Stability	Medium	Some of the details regarding the test substance preparation and storage conditions were not reported but the omissions are unlikely to have a substantial impact on the study results.
Domain 3: Test Conditions			
	Metric 5: Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6: Testing Conditions	Medium	Some of the test conditions were not reported but the omissions are unlikely to have a substantial impact on the study results.

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Study Citation:	Miyamoto, K., Urano, K. (1996). Reaction rates and intermediates of chlorinated organic compounds in water and soil. Chemosphere 32(12):2399-2408.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	5465182			
Domain		Metric	EVALUATION Rating	Comments
	Metric 7:	Testing Consistency	N/A	The number of sample groups was not reported so the metric cannot be rated.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Some details regarding the sampling methods were not reported but the omissions are unlikely to have a substantial impact on the study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Uncertainty was not reported in the study results; however, the omission is unlikely to have a substantial impact on the study results.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Some details regarding the analytical method were not reported, but the omissions are unlikely to have a substantial impact on the study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Kinetic calculations were described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination			High	

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; other: Not specified			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Buffer, Test Temperature, Number of Replicates	Not reported; Test substance boiling point; Not reported			
Positive Controls and Negative Controls	Positive: Not reported; Negative: Not reported			
pH and Duration	Not reported; Not reported			
Sampling Frequency and Test Setup	Not reported; Not reported			
Concentration	Not reported			
Analytical Method, Analytical Details, and Statistics	Not reported; Not reported; Not reported			
Transformation Products	Not reported			
Reference Substance and Reference Substance Results	Not reported; Not reported			
Percent Recovery, Hydrolysis Rate Constant, and Half-life	Not reported; Not reported; Not reported			
Results Remarks	Hydrolysis occurs at the test substance’s boiling point in the presence of water.			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Concurrent control group details were not reported.
	Metric 4:	Test Substance Stability	Medium	Test substance stability, homogeneity, preparation, and storage conditions were not reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Test method was not identified, but likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 6:	Testing Conditions	Medium	Testing conditions are unknown but are likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 7:	Testing Consistency	Medium	Testing consistency is unknown but are likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database or other secondary source.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	N/A	This metric is not applicable to this type of study.
	Metric 10:	Sampling Methods	N/A	This metric is not applicable to this type of study.
Domain 5: Outcome Assessment	Metric 11:	Test Substance Identity	Medium	The outcome assessment methodology is unknown but is likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 12:	Test Substance Purity	Medium	Sampling methodology is unknown is unknown but is likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
Domain 6: Confounding/Variable Control	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty were not reported.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis	Metric 15:	Data Reporting	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	No statistical methods or kinetic calculations were reported.
Domain 8: Other	Metric 17:	Verification or Plausibility of Results	Medium	The results appear reasonable, but lack detail.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination**Medium**

* Related References: IARC. Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans. Geneva: World Health Organization, International Agency for Research on Cancer, 1972-PRESENT. p. V20: 534 (1979)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; other: Estimated half-life			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Buffer, Test Temperature, Number of Replicates	Not applicable; Not reported; Not applicable			
Positive Controls and Negative Controls	Positive: Not applicable; Negative: Not applicable			
pH and Duration	7; Not applicable			
Sampling Frequency and Test Setup	Not applicable; Not applicable			
Concentration	Not applicable			
Analytical Method, Analytical Details, and Statistics	Not applicable; Not applicable; Not reported			
Transformation Products	Not reported			
Reference Substance and Reference Substance Results	Not applicable; Not applicable			
Percent Recovery, Hydrolysis Rate Constant, and Half-life	Not applicable; Not applicable; 139 years			
Results Remarks	Estimated half-life			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Concurrent control group details were not reported.
	Metric 4:	Test Substance Stability	Medium	Test substance stability, homogeneity, preparation, and storage conditions were not reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Test method details were not reported but are likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database.
	Metric 6:	Testing Conditions	Medium	Testing conditions are unknown but are likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 7:	Testing Consistency	Medium	Testing consistency is unknown but are likely to be appropriate based on the data’s inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	This metric is not applicable to this type of study.
	Metric 10:	Sampling Methods	N/A	This metric is not applicable to this type of study.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	The outcome assessment methodology is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 12:	Test Substance Purity	Medium	Sampling methodology is unknown is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty were not reported.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Analytical method is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	No statistical methods or kinetic calculations were reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.
Overall Quality Determination			Medium	

* Related References: Primary ref is HERO ID 661098: Jeffers PM et al; Environ Sci Technol 23: 965-9 (1989)

Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.
OECD Harmonized Template:	Hydrolysis
HERO ID:	5185306

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, Type, Guideline	Not Reported; Not Reported; OECD Guideline 111 (Hydrolysis as a Function of pH)
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; 99%
Buffer, Test Temperature, Number of Replicates	Not Reported; Not Reported; Not Reported
Positive Controls and Negative Controls	Positive: Not Reported; Negative: Not Reported
pH and Duration	Not Reported; Not Reported
Sampling Frequency and Test Setup	Not Reported; Not Reported
Concentration	Not Reported
Analytical Method, Analytical Details, and Statistics	Not Reported; Not Reported; Not Reported
Transformation Products	Not Reported
Reference Substance and Reference Substance Results	Not Reported; Not Reported
Percent Recovery, Hydrolysis Rate Constant, and Half-life	Not Reported; Not Reported; Not Reported
Results Remarks	Stable at pH 4 at 25°C; stable at pH 7 at 25°C; half-life = 85.0 days at pH 9 at 25°C

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	High	Purity was reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				

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Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.			
OECD Harmonized Template:	Hydrolysis			
HERO ID:	5185306			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Limited details; trusted source with primary source citation.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.
Overall Quality Determination		High		

* Related References: Source cited: MITI, JAPAN

Study Citation:	Haag, W. R., Yao, C. C. D. (1992). Rate constants for reaction of hydroxyl radicals with several drinking water contaminants. Environmental Science & Technology 26(5):1005-1013.
OECD Harmonized Template:	Photolysis in Water
HERO ID:	658815

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; EPA OTS 796.3700 (Direct Photolysis Rate in Water by Sunlight): non-guideline
Solvent, Reactivity, Storage, Stability	Milli-Q water; NR; NR; Hydrolysis not considered a concern
Radiolabel, Source, State, Purity	No; NR; NR; reagent grade or better
Duration and Test Temperature	1-2 minutes; 24±1°C
Light Source, Intensity, and additional light details	Varian Eimac R300-3 (300 W) xenon lamp.; 700 W/m2, about 4 times the intensity of spring, noon sunlight at 38O N.; Light measured by LI-COR Model LI-1800/12 spectroradiometer
Source Wavelength Lower and Upper	300 nm; 500 nm
Test Details and Control	0.1M H2O2 added to Fe(CIO4)3 substrate and reference in aqueous solution in presence of air. Photolyzed in borosilicate glass tube 30 cm away from lamp for 1-2 min.; Not reported
Initial Concentration and Reference Compound	Not reported; 0.22 Not reported; mM; 2-bromoethanol (CH2BrCH2OH)
Substance Wavelength Lower and Upper	Not reported; Not reported
Direct Quantum Yield Results, Direct Half Life by Loss Lower and Upper	Not reported; Not reported; Not reported
Indirect Rate Constant Lower and Upper	1.1E8 M-1sec-1; 1.3E8 M-1sec-1
Method Details Results and Products	photo-Fenton; GC with Electron capture detector; Not reported
Details Results	
Parameter Value and Parameter Results	other; hydroxyl radical reaction rate (kHO.)
Reference Compound, Reference	2-bromoethanol (CH2BrCH2OH); 3.5E8 M-1s-1; not reported; NR; +/-0.4E8
Substance Results, Percent Degradation Results and Standard Deviation Results	
Results Remarks, Sample time Results, Results Details	rate calculated in air reported as 2E8 M-1-s-1; Not reported; Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name and CASRN.
	Metric 2:	Test Substance Purity	High	The purity of the test substance was reported.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The study did not require concurrent control groups.
	Metric 4:	Test Substance Stability	High	The test substance stability was reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.

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Study Citation:	Haag, W. R., Yao, C. C. D. (1992). Rate constants for reaction of hydroxyl radicals with several drinking water contaminants. Environmental Science & Technology 26(5):1005-1013.			
OECD Harmonized Template:	Photolysis in Water			
HERO ID:	658815			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	High	Testing conditions were monitored, reported, and appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent.
	Metric 8:	System Type and Design	High	The system type and design was appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Minor limitations were identified in sampling methods of the outcome of interest were reported; however, the limitations were not likely to have a substantial impact on results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of variability and uncertainty were considered and accounted for in data evaluation.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The target chemical concentrations, extraction efficiency, percent recovery, or mass balance were not reported; however, these omissions were not likely to have a substantial impact on study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods or kinetic calculations were clearly described and address the dataset.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	Reported values were within expected range.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		High		

Study Citation:	Basu, D., Gupta, S. K. (2012). Performance of upflow anaerobic sludge blanket (UASB) reactor treating simulated wastewaters containing 1,1,2-trichloroethane and 1,1,2,2-tetrachloroethane. International Journal of Environment and Waste Management 9(1-2):181-190.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5476273

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; 1,1,2-Trichloroethane
Confidentiality, EndPoint, Type, Guideline	no; biodegradation; experimental; other: non-guideline: anaerobic biodegradation in sludge bioreactors
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	RN; Sigma-Aldrich, Germany; NR; 99.9% Notes: NR
Blank and Control	control with unacclimated seed sludge and only substrate, buffer and nutrient solution; during acclimation concentrations up to 40 mg/L did not result in microbial inhibition
Oxygen and Inoculum	anaerobic; anaerobic sludge: 5 L of anaerobic granular sludge (VSS = 22–25 g/L, SS = 30–34 g/L), from reactors previously treating chlorinated aromatic compounds. Two reactors used acclimated sludge (acclimation achieved by using 5 mg/L concentration increasing in a stepwise manner up to 40 mg/L, of 1,1,2-TCA and 1,1,2,2-TeCA, and sodium acetate (as substrate) and nutrient solutions).
Duration, Parameter, System, and Sampling Frequency	up to 400 days; COD removal: bench-scale UASB reactors operating in continuous mode at 24 hydraulic retention times.; daily
pH Adjusted and pH Concentration	reaction buffered; 7.5-7.8; effluent pH at the end of start up (100 days) = 8.2±0.2 (unacclimated) and 8.1±0.2 (acclimated)
Composition and Test Temperature	= 5 - = 40 mg/L Synthetic wastewater: sodium acetate (trihydrate) 4400 mg/L, K ₂ HPO ₄ 37.4 mg/L, NH ₄ Cl 127.4 mg/L, MgSO ₄ · 7H ₂ O 40 mg/L, NaHCO ₃ 250 mg/L, and CaCl ₂ · 2H ₂ O 150 mg/L; trace metal solution: 0.1 g/L ZnSO ₄ ·7H ₂ O, 5.0 g/L MnCl ₂ ·4H ₂ O, 6.0 g/L FeCl ₂ ·4H ₂ O, 0.64 g/L (NH ₄) ₆ Mo ₇ O ₂₄ ·4H ₂ O, 0.88 g/L CoCl ₂ ·4H ₂ O, 0.5 g/L CuSO ₄ ·5H ₂ O, 0.1 g/L H ₃ BO ₃ , 5.0 g/L MgSO ₄ ·7H ₂ O and 1.0 g/L NiSO ₄ ·8H ₂ O in 1 L of distilled water.; 27±4°C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	not reported; not reported; not reported; COD = 2000 mg/L, alkalinity = 1700 mg/L CaCO ₃ (effluent alkalinity at the end of start up (100 days) = 1850±50 mg/L CaCO ₃)
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	GC with ECD; COD removal; not reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	96% (in unacclimated control reactor); 98.6% (in acclimated inoculum reactor); not reported; 400 days; NA
Results Remarks and Results Details	In the acclimated reactor removal of 1,1,2-TCA was 99.9%; biogas production in all the reactors was in the range of 9 –9.6 L/d.; not reported
Results Mean Total Recovery and Results per Recovery	not reported; not reported

EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1:	Test Substance Identity	High The test substance was identified clearly.
	Metric 2:	Test Substance Purity	High The source and purity of the test substance were reported.
Domain 2: Test Design			

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Study Citation:	Basu, D., Gupta, S. K. (2012). Performance of upflow anaerobic sludge blanket (UASB) reactor treating simulated wastewaters containing 1,1,2-trichloroethane and 1,1,2,2-tetrachloroethane. International Journal of Environment and Waste Management 9(1-2):181-190.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5476273			
Domain		Metric	EVALUATION Rating	Comments
	Metric 3:	Study Controls	High	This metric met the criteria for high confidence as expected for this type of study. Controls were included.
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation and storage conditions were not reported; however, these factors were not likely to have influenced the test substance or were not likely to have had a substantial impact on the study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance; the target chemical was tested at concentrations below its aqueous solubility.
	Metric 6:	Testing Conditions	High	Testing conditions were monitored, reported, and appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples or study groups.
	Metric 8:	System Type and Design	High	The system type and design were reported and appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The inoculum and acclimation conditions were reported.
	Metric 10:	Sampling Methods	High	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Limited details regarding sampling methods of the outcome.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Sources of variability and uncertainty in the measurements were not discussed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Analytical details, mass balance, and target chemical concentrations were not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	Low	Statistical analysis were not described/conducted.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The study results were reasonable; loss due to other processes such as volatilization or sorption were not specifically addressed.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination**High**

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Study Citation:	Basu, D., Gupta, S. K. (2012). Performance of upflow anaerobic sludge blanket (UASB) reactor treating simulated wastewaters containing 1,1,2-trichloroethane and 1,1,2,2-tetrachloroethane. International Journal of Environment and Waste Management 9(1-2):181-190.		
OECD Harmonized Template:	Biodegradation in Water		
HERO ID:	5476273		
		EVALUATION	
Domain	Metric	Rating	Comments

Study Citation:	Chang, Y. C., Hatsu, M., Jung, K., Yoo, Y. S., Takamizawa, K. (1998). Degradation of a variety of halogenated aliphatic compounds by an anaerobic mixed culture. Journal of Fermentation and Bioengineering 86(4):410-412.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	1742857

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; other; Experimental; other: enriched culture
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	Not Reported; NR; NR; NR
Blank and Control	Not reported; Not reported
Oxygen and Inoculum	anaerobic; anaerobic bacteria: enriched culture; mixed culture made from ditch sludge (mixed with sewage) in Gifu which was contaminated with PCE
Duration, Parameter, System, and Sampling Frequency	30 days; test mat.: Not Reported; Not reported
pH Adjusted and pH	Not Reported; 7.2
Concentration	1 mg/L
Composition and Test Temperature	MM medium; 30C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; yes; Not reported
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	GC with electron capture detector or thermal conductivity detector (CO2) or flame ionization detector (byproducts); CO2; Not Reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	60% degradation; Not reported; 7 days; Not reported
Results Remarks and Results Details	Not reported; Not reported
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	Low	Details regarding the test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Low	The study did not include or report control groups.
	Metric 4:	Test Substance Stability	Medium	The test substance preparation and storage conditions details were not reported.
Domain 3: Test Conditions				

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Study Citation:	Chang, Y. C., Hatsu, M., Jung, K., Yoo, Y. S., Takamizawa, K. (1998). Degradation of a variety of halogenated aliphatic compounds by an anaerobic mixed culture. Journal of Fermentation and Bioengineering 86(4):410-412.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	1742857			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	Some test condition details were not reported.
	Metric 7:	Testing Consistency	Medium	Limited details regarding testing consistency were reported; however, the omissions were not likely to have had a substantial impact on the interpretation of the study results.
	Metric 8:	System Type and Design	Medium	Limited details regarding test system design were reported; however, the omissions were not likely to have had a substantial impact on the interpretation of the study results.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	The test inoculum sources were reported, but are not routinely used; however, the deviation was not likely to have a substantial impact on study results.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	Low	Details regarding sampling methods of the outcome(s) were not fully reported, and the omissions may have a substantial impact on study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Several experimental details were not reported and the mass balance not fully reported; these omissions may have a substantial impact on the study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods and kinetics calculations were reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Analytical detail and control groups missing.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination		Medium		

Study Citation:	Dow Chemical, (2001). [Redacted] Intrinsic biodegradation of chlorinated solvents in aquifer microcosms from the Altona Chemical Complex, Altona, Australia.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	10609982			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	Not Reported; 1,1,2-trichloroethane			
Confidentiality, EndPoint, Type, Guideline	redacted; other; experimental; other: biostimulation study			
Solvent, Reactivity, Storage, Stability	1,4-dioxane; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; Ultra Scientific; NR; highest available purity			
Blank and Control	mercury chloride; mercury chloride and yeast extract; not reported			
Oxygen and Inoculum	aerobic/anaerobic; other:: crushed basalt and groundwater collected near the Altona Chemical Complex			
Duration, Parameter, System, and Sampling Frequency	6 months; test mat: glass serum bottles containing basalt and site groundwater.; periodic			
pH Adjusted and pH	no; 6.7-7.8			
Concentration	ca 5 mg/L			
Composition and Test Temperature	15 mg/L toluene; 10 mg/L yeast extract and 100 mg/L lactate; 20±2°C			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	not reported; not reported; Not Reported; groundwater used in microcosms were stripped of volatile organics prior to study initiation.			
Results Details Method, Results per Degradation Parameter, and	GC/FID; Not Reported; Not Reported			
Direct Quantum Yield Results				
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not Reported; Not Reported; Not Reported; Not Reported			
Results Remarks and Results Details	Results of this study neither support or deny evidence of microbial degradation due to the fact that the true source of daughter products (ethylene dichloride and vinyl chloride) was not established.; Not Reported			
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified by name and structure.
	Metric 2:	Test Substance Purity	High	The source and purity of the test substance were reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	High	Concurrent controls were included.
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
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Study Citation:	Dow Chemical, (2001). [Redacted] Intrinsic biodegradation of chlorinated solvents in aquifer microcosms from the Altona Chemical Complex, Altona, Australia.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	10609982			
Domain	Metric	EVALUATION Rating	Comments	
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Uninformative	The test method was not suitable for the test substance. These deviations or lack of information resulted in serious flaws that make the study unusable.
	Metric 6:	Testing Conditions	Low	Co-substrates were used and were likely to have a substantial impact on the results.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples or study groups.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The inoculum source was reported and is routinely used for similar study types and appropriate for the study method or route.
	Metric 10:	Sampling Methods	N/A	Rating of this factor is not applicable to this kind of information.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	There was incomplete reporting of outcome assessment methods; however, such differences or absence of details were not likely to be severe or have a substantial impact on the study results.
	Metric 12:	Test Substance Purity	Medium	Minor limitations were identified in sampling methods of the outcome(s) of interest were reported; however, the limitations were not likely to have a substantial impact on results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Sources of variability and uncertainty in the measurements and statistical techniques and between study groups were not considered or accounted for in data evaluation resulting in some uncertainty and there is concern that variability or uncertainty was likely to have a substantial impact on the results.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	There was insufficient evidence presented to confirm that parent compound disappearance was not likely due to some other process.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Kinetic calculations were not clearly described.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Due to limited information, evaluation of the reasonableness of the study results was not possible.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.

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Study Citation:	Dow Chemical, (2001). [Redacted] Intrinsic biodegradation of chlorinated solvents in aquifer microcosms from the Altona Chemical Complex, Altona, Australia.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	10609982

		EVALUATION	
Domain	Metric	Rating	Comments

Overall Quality Determination	Uninformative
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Study Citation:	Dow Chemical, (2000). Introductory study of the biodegradation of the chlorinated methane, ethane and ethene compounds: Progress report CR806890-01 coop agreement.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	4215582

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; anaerobic biodegradation; Experimental; other: Primary biodegradation of 1,1,2-trichloroethane in muck sample
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; 200 µg sample also contained 22 µg of 1,2-dichloroethane and 25 µg of other chlorinated organics
Blank and Control	Autoclaved vial with same test substance preparation; Not reported
Oxygen and Inoculum	anaerobic; natural water / sediment: Everglades muck and water collected on Feb 12, 1979
Duration, Parameter, System, and Sampling Frequency	13 days; test mat.: 60 ml septum vial; Days 0, 4, and 13
pH Adjusted and pH	Not Reported; Not reported
Concentration	200
Composition and Test Temperature	Anaerobic and microaerophilic system muck (screened) with muck water and a few mLs of methanol.; Not reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not Reported; Anaerobic conditions assumed. 199 µg (200 µg nominal). High oxygen demand (value not recorded); TOC 25-45 ppm
Results Details Method, Results per Degradation Parameter, and	Purge and Trap method using Tenax GC- and Carbowax C (0.1% SP-1000).; 1,1,2-trichloroethane concentration; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	25% after 13 days (calculated by the reviewer); Not reported; Not reported; No degradation was observed in control vials
Results Remarks and Results Details	none; Half-life=24.1 days (primary degradation). The estimated time to complete decay of 200 µg (nominal) was 48 days. Main degradation product is 1,2-dichloroethane.
Results Mean Total Recovery and Results per Recovery	yes; Averaged 88% over series of experiments

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified using common nomenclature.
	Metric 2:	Test Substance Purity	Medium	The test substance contained impurities; however, the impurities are unlikely to have a substantial impact on the study results.
Domain 2: Test Design	Metric 3:	Study Controls	High	Appropriate controls were used.
	Metric 4:	Test Substance Stability	Medium	Some details regarding the test substance preparation and storage conditions were not reported but the omissions are unlikely to have a substantial impact on the study results.

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Study Citation:	Dow Chemical, (2000). Introductory study of the biodegradation of the chlorinated methane, ethane and ethene compounds: Progress report CR806890-01 coop agreement.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	4215582			
		EVALUATION		
Domain	Metric	Rating	Comments	
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	Some of the testing conditions were not reported; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 7:	Testing Consistency	High	There were no reported changes in the testing conditions between the sampling groups.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Some details regarding the inoculum were not reported but the omissions are unlikely to have a substantial impact on the study results.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	The sampling methods were reported and appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Uncertainty in the concentration measurements was not reported but the omission is unlikely to have a substantial impact on the study results.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The target chemical concentrations were reported and the analytical method was suitable.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Statistical analysis was not reported but the omission is unlikely to have a substantial impact on the study results.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination		Medium		

Study Citation:	Enzminger, J. D. (1988). Anaerobic reductive dechlorination of C2 hydrocarbons in batch and fixed-film bioreactors.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5443549

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, EndPoint, Type, Guideline	None; other: Experimental; other: Non-guideline open batch reactors
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Blank and Control	Autoclaved, sterile controls; Not reported
Oxygen and Inoculum	anaerobic; sewage, domestic, non-adapted: Berkeley Heights or OldbridgeTownship sewage treatment plants in New Jersey
Duration, Parameter, System, and Sampling Frequency	8 days; test mat.: serum bottles with activated sludge; days 0,2,5,8
pH Adjusted and pH	Not Reported; 7
Concentration	ca. 0.95 mg/L
Composition and Test Temperature	Two salt solutions; 35°C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; NA; media sparged with 30% carbon dioxide and 70% nitrogen; yes; Not Reported
Results Details Method, Results per Degradation Parameter, and	GC-ECD, Cl by HPLC anion chromatography, methane, carbon dioxide, and nitrogen by GC-thermal conductivity detector; test substance disappearance; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	100% conversion to vinyl chloride and 1,2-DCA figure 4.41; Not reported; 8 days; Not reported
Results Remarks and Results Details	Not applicable; Not applicable
Results Mean Total Recovery and Results per Recovery	quantification by retention times and peak areas with standards prepared in n-pentane; Not applicable

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The source and purity of the test substance were not reported or explicitly verified by analytical means.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	A concurrent negative control was not reported.
	Metric 4:	Test Substance Stability	High	Test substance preparation and storage conditions were reported and were appropriate for the study.
Domain 3: Test Conditions				

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Study Citation:	Enzminger, J. D. (1988). Anaerobic reductive dechlorination of C2 hydrocarbons in batch and fixed-film bioreactors.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5443549			
Domain	Metric	EVALUATION		Comments
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	Some matrix and test parameters (pH, temperature) were not explicitly reported.
	Metric 7:	Testing Consistency	Medium	Some test conditions across samples or study groups were not reported, but these discrepancies were not likely to have a substantial impact on study results.
	Metric 8:	System Type and Design	Medium	Equilibrium was likely established and the system was capable of maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	Low	Details regarding sampling methods were not fully reported, and the omissions may have a substantial impact on study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability in measurements were addressed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Extraction efficiency and mass balance were not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Medium	

Study Citation:	Huff, G. F., Braun, C. L., Lee, R. W. (2000). Assessment of potential for natural attenuation of chlorinated ethenes and ethanes in ground water at a petrochemical reclamation site, Harris County, Texas.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	664358

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; Not Reported
Confidentiality, EndPoint, Type, Guideline	No; Screening model used for assessment of reductive dechlorination in ground water; Field study with screening model BIOCHLOR; other: Natural attenuation at a petroleum chemical reclamation site
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Contaminated groundwater; Not Reported; Not Reported
Blank and Control	Field blanks, trip blanks and method blanks included; Not applicable
Oxygen and Inoculum	Concentrations of dissolved oxygen in all well samples were ≈ 0.37 mg/L indicating anaerobic conditions; Not Reported: Groundwater/sediment
Duration, Parameter, System, and Sampling Frequency	Not applicable; test material analysis: Groundwater evaluated in Numerous Sand Channels Zone to assess natural attenuation; Groundwater samples were collected from 16 wells
pH Adjusted and pH	No; pH measured in 16 wells ranged from 6.88-7.64
Concentration	$< 10^{-7}$ = 73950 $\mu\text{g/L}$
Composition and Test Temperature	Groundwater was contaminated with 1,1-dichloroethene; trans-1,2-dichloroethene; 1,1-dichloroethane; 1,2-dichloroethane; trichloroethene; and 1,1,2-trichloroethane; associated chemicals identified were vinyl chloride, 1,1-DCE, trans-1,2-DCE, 1,1-DCA, 1,2-DCA, TCE, 1,1,2-TCE, PCE; Not Reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Yes; Site analysis indicated iron-III-reducing conditions, sulfate-reducing conditions, and methanogenic conditions; sediment bulk density: 2.27 g/cm ³ , 0.16% organic carbon; steady-state conditions assumed for simulations.
Results Details Method, Results per Degradation Parameter, and	EPA method 8260 (volatile organic compounds), EPA method 8015 (ethene, ethane, and 2-chloroethanol), EPA method 415.1 (dissolved organic carbon), EPA method 325.3 (dissolved chloride), EPA method 353.2 (dissolved nitrite plus nitrate, as N), and EPA method 375.4 (dissolved sulfate);
Direct Quantum Yield Results	First-order decay constant; Not reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not reported; Not reported; Not reported; Not reported
Results Remarks and Results Details	Hydrogenolysis of 1,1,2-TCA to 1,2-DCA was supported by the data; BIOCHLOR indicated strong evidence for anaerobic degradation of chlorinated organic compounds; reductive dechlorination products of 1,2-DCA, chloroethane and ethane, were not detected at concentrations above the MDL (100 and 200 $\mu\text{g/L}$, respectively). More sensitive analysis of these transformation products may be helpful.; First order decay = 0.50 per year (for upgradient segment of flowpath); 0 per year (for downgradient segment of flow path)
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported

EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High The test substance was identified clearly.
	Metric 2:	Test Substance Purity	Medium The source was reported; analytical standards were not reported.
Domain 2: Test Design			

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Study Citation:	Huff, G. F., Braun, C. L., Lee, R. W. (2000). Assessment of potential for natural attenuation of chlorinated ethenes and ethanes in ground water at a petrochemical reclamation site, Harris County, Texas.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	664358			
Domain	Metric	EVALUATION		Comments
	Metric 3:	Study Controls	High	Appropriate blanks were included.
	Metric 4:	Test Substance Stability	Medium	Preparation and storage conditions of samples were not reported; however, these factors were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Medium	Non-guideline field study
	Metric 6:	Testing Conditions	High	Field conditions were analyzed and reported.
	Metric 7:	Testing Consistency	High	Testing was consistent.
	Metric 8:	System Type and Design	High	Field study; steady state can be assumed.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Low	Microbial viability of system was not assessed or discussed.
	Metric 10:	Sampling Methods	N/A	This metric is not applicable to this type of study.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Limited detail regarding the outcome assessment; BIOCHLOR was cited as the modeling tool. Endpoint of interest was reported.
	Metric 12:	Test Substance Purity	High	Sampling methods were appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	More sensitive analysis of transformation products would help in evaluating the potential for ultimate degradation in natural groundwater systems.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	This metric is not applicable to this type of study.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Data reporting was appropriate.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Kinetic calculations were not well described, but calculated using BIOCHLOR and assumed to be first order decay.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination**High**

Study Citation:	Hunkeler, D., Aravena, R., Cox, E. (2002). Carbon isotopes as a tool to evaluate the origin and fate of vinyl chloride: Laboratory experiments and modeling of isotope evolution. Environmental Science & Technology 36(15):3378-3384.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	659065

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not reported; 1,1,2-trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; other - screening test with carbon isotope fractionation; experimental; other: Microcosm
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR Notes: NR
Blank and Control	Autoclaved and killed (mercuric chloride) controls included; one control microcosm was amended with 1,2-DCA and 1,1,2-TCA, the other with 1,1-DCE, trans-1,2-DCE, and cis-1,2-DCE. No significant changes were observed in the control indicating abiotic transformation was negligible; variation of ^{13}C was $<0.8\%$ and changes in concentrations were $<15\%$ for all compounds. Control results: the 1,2-DCA concentrations remained within 10% of the initial concentration and the ^{13}C of 1,2-DCA within 0.5%; abiotic transformation of 1,2-DCA was negligible.; Not reported anaerobic; natural water / sediment: Microcosms were prepared using aquifer material and groundwater from a site in Louisiana previously used for the disposal of liquid chlorinated hydrocarbons (soil and groundwater collected 180 m downgradient from the former impoundments).
Oxygen and Inoculum	Up to 250 days; radiochem. measure, test mat.: 250 mL sterile glass bottles, with 60 g homogenized aquifer material and 150 mL groundwater;
Duration, Parameter, System, and Sampling Frequency	Not reported
pH Adjusted and pH	Not reported; Not reported
Concentration	104.4 ppm
Composition and Test Temperature	Methanol, ethanol, acetate, and lactate (50 mg/L each) mixture was added as electron donor to all microcosms including controls each time chlorinated compounds were added.; Not reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not reported; Microcosms in July 1999, were amended with a mixture of 1,1,2-TCA (200 ppm), 1,2-DCA (200 ppm), and 1,1-DCA (10 ppm); beginning May 2000, microcosms were purged for 3 h with 5% $\text{CO}_2/95\%$ N_2 and amended with a mixture of 1,1,2-TCA and 1,2-DCA (100 ppm each). Final concentration of 1,1,2-TCA in the aqueous phase: 104.4 ppm.
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	Headspace analysis via GC-FID. Detection limits were between 6 and 200 ppb depending on the Henry's coefficient of the compound. The standard uncertainty of the method was 6% for chlorinated hydrocarbons.; Degradation of test material; Not reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Slow transformation of 1,1,2-TCA began after a lag period of ca. 40 days; 64% of 1,1,2-TCA was transformed after 250 days. 1,1,2-TCA was degraded to vinyl chloride and ethene.; Not reported; Not reported (2-5 days based on the figures); $<15\%$ changes in concentration
Results Remarks and Results Details	Not reported; Not reported
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	Low	The source and purity of the test substance were not reported or verified by analytical means.

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Study Citation:	Hunkeler, D., Aravena, R., Cox, E. (2002). Carbon isotopes as a tool to evaluate the origin and fate of vinyl chloride: Laboratory experiments and modeling of isotope evolution. Environmental Science & Technology 36(15):3378-3384.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	659065			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 2: Test Design				
	Metric 3:	Study Controls	High	Appropriate controls were included.
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Low	Limited detail regarding the test conditions.
	Metric 7:	Testing Consistency	High	Test was consistent across study groups.
	Metric 8:	System Type and Design	High	The system type and design was appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The inoculum source was reported.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	There were minor differences between the assessment methodology and the intended outcome assessment (i.e. biodegradation rate not reported).
	Metric 12:	Test Substance Purity	Medium	Limited detail regarding sampling methods.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of variability and uncertainty in the measurements and statistical techniques were reported in the study and the differences in the measurements between study groups were considered or accounted for in data evaluation with minor deviations or omissions.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Some analytical detail omitted.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this study.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study.

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Study Citation:	Hunkeler, D., Aravena, R., Cox, E. (2002). Carbon isotopes as a tool to evaluate the origin and fate of vinyl chloride: Laboratory experiments and modeling of isotope evolution. Environmental Science & Technology 36(15):3378-3384.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	659065

Domain	Metric	EVALUATION Rating	Comments
Overall Quality Determination		High	

Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5258494

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, EndPoint, Type, Guideline	None; Not Reported; Experimental; other: Modified shake-flask method
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Chem Service, Inc., West Chester, PA; NR; 99%
Blank and Control	Sterile control; Volatile loss control
Oxygen and Inoculum	aerobic; natural water / sediment: Microbial inoculum from secondary effluent, Iowa River water, and Iowa farm soil
Duration, Parameter, System, and Sampling Frequency	24 days; test mat.: 1L vacuum filter flask, two borosilicate screw caps vials fitted side-by-side to the neck of the flask. Flasks were sealed with Supelco Mininert Teflon valves.; 0, 3, 12, 24 d
pH Adjusted and pH	Not Reported; > 6.5
Concentration	5.1 mg/L
Composition and Test Temperature	Not reported; 25±1°C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; yes; Not Reported
Results Details Method, Results per Degradation Parameter, and	Varian model 3700 GC with dial FID detectors. Method allowed quantitation to the nearest 0.1 mg/L; Target compound; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Negligible; Not reported; 24 days; Negligible losses after 100 hr; No chemical or physical degradation observed, -1.0% adsorption onto biological floc;
Results Remarks and Results Details	Test substance (mg/L): 5.1±0.1/0d, 5.1±1/3d, 5.3±0.1/12d, 5.2±0.1 /24d; Not reported
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1: Test Substance Identity	High	The test substance was identified by name.
	Metric 2: Test Substance Purity	High	The test substance source and purity was reported.
Domain 2: Test Design			
	Metric 3: Study Controls	High	Negative controls were included and tested valid.
	Metric 4: Test Substance Stability	High	Test substance preparation and storage before analysis were reported and appropriate for the substance.
Domain 3: Test Conditions			

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Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5258494			
Domain		Metric	EVALUATION	
			Rating	Comments
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	The majority of the appropriate test conditions were reported and appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	N/A	Not applicable
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Limited inoculum information was reported, several pages potentially having this information are missing from the pdf.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	The study used sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability and uncertainty were accounted for in the measurements and between study groups.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Target chemical concentrations were reported and sufficient evidence was presented to confirm that the parent compound disappearance was not due to some other process.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Not applicable
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	Not applicable
Overall Quality Determination			High	

* Related References: Data included in HSDB PubMed profile

Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5258494

EXTRACTION				
Parameter		Data		
CASRN and Test Material		79-00-5; 1,1,2-TCA		
Confidentiality, EndPoint, Type, Guideline		None; Not Reported; Experimental; other: Modified shake-flask method		
Solvent, Reactivity, Storage, Stability		NR; NR; NR; NR		
Radiolabel, Source, State, Purity		NR; Chem Service, Inc., West Chester, PA; NR; 99%		
Blank and Control		Sterile control; Volatile loss control		
Oxygen and Inoculum		aerobic; natural water / sediment: Microbial inoculum from secondary effluent, Iowa River water, and Iowa farm soil		
Duration, Parameter, System, and Sampling Frequency		21 days(acclimation); 5 days; test mat.: 1L vacuum filter flask, two borosilicate screw caps vials fitted side-by-side to the neck of the flask. Flasks were sealed with Supelco Mininert Teflon valves.; 0, 1, 2, 3, 4, 5 d		
pH Adjusted and pH		Not Reported; > 6.5		
Concentration		1.0 mg/L		
Composition and Test Temperature		Not reported; 25±1°C		
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design		Not reported; Not reported; yes; Adaptive transfers every 72 hours with initial 100 mg/L lactose and initial 20 mg/L oxygen		
Results Details Method, Results per Degradation Parameter, and		Varian model 3700 GC with dial FID detectors. Method allowed quantitation to the nearest 0.1 mg/L; Target compound; Not Reported		
Direct Quantum Yield Results				
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments		Negligible; Not reported; 5 days; Negligible losses after 100 hr; No chemical or physical degradation observed, -1.0% adsorption onto biological floc;		
Results Remarks and Results Details		Test substance (mg/L): 1.0±0.1/0d, 1.0±1/1d, 1.1±0.1/2d, 1.1±0.1/3d, 1.1±0.1/4d, 1.0±0.1/5d; Not reported		
Results Mean Total Recovery and Results per Recovery		Not reported; Not reported		
EVALUATION				
Domain		Metric	Rating	Comments
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	High	The test substance source and purity was reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	High	Negative controls were included and tested valid.
	Metric 4:	Test Substance Stability	High	Test substance preparation and storage before analysis were reported and appropriate for the substance.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
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Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5258494			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	High	The majority of the appropriate test conditions were reported and appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	N/A	Not applicable
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Limited inoculum information was reported, several pages potentially having this information are missing from the pdf.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	The study used sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability and uncertainty were accounted for in the measurements and between study groups.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Target chemical concentrations were reported and sufficient evidence was presented to confirm that the parent compound disappearance was not due to some other process.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Not applicable
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	Not applicable
Overall Quality Determination		High		

* Related References: Data included in HSDB PubMed profile

Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5258494

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, EndPoint, Type, Guideline	None; Not Reported; Experimental; other: Modified river die-away
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Chem Service, Inc., West Chester, PA; NR; 99%
Blank and Control	Sterile control; Volatile loss control
Oxygen and Inoculum	aerobic; natural water / sediment: Raw river water collected from University of Iowa water treatment plant
Duration, Parameter, System, and Sampling Frequency	21 days (acclimation); 110 hours; test mat.: 1L vacuum filter flask, two borosilicate screw caps vials fitted side-by-side to the neck of the flask.
pH Adjusted and pH	Flasks were sealed with Supelco Mininert Teflon valves.; 0, 24, 75, and 108 hr
Concentration	Not Reported; > 6.5
Composition and Test Temperature	20.3 mg/L
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; 25±1°C
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	Not reported; Not reported; yes; Adaptive transfers were made every 72 hours after an initial 120 hr acclimation period
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Varian model 3700 GC with dial FID detectors. Method allowed quantitation to the nearest 0.1 mg/L; Target compound; Not Reported
Results Remarks and Results Details	Negligible; Not reported; 108 hours; Negligible losses after 100 hr; No chemical or physical degradation observed, -1.0% adsorption onto biological floc;
Results Mean Total Recovery and Results per Recovery	Test substance (mg/L): 20.3±0.1/ 0 hr, 20.7±1/24 hr, 20.6±0.1/75 hr, 20.2±0.1/108 hr; Not reported
	Not reported; Not reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
Metric 1:	Test Substance Identity	High	The test substance was identified by name.
Metric 2:	Test Substance Purity	High	The test substance source and purity was reported.
Domain 2: Test Design			
Metric 3:	Study Controls	High	Negative controls were included and tested valid.
Metric 4:	Test Substance Stability	High	Test substance preparation and storage before analysis were reported and appropriate for the substance.
Domain 3: Test Conditions			
Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.

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Study Citation:	Mudder, T. I. (1981). Development of empirical structure - Biodegradability relationships and testing protocol for slightly soluble and volatile priority pollutants. Dissertation Abstracts International, B: The Sciences and Engineering Doctoral Dissertation:216.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5258494			
		EVALUATION		
Domain		Metric	Rating	Comments
	Metric 6:	Testing Conditions	High	The majority of the appropriate test conditions were reported and appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	N/A	Not applicable
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Limited inoculum information was reported, several pages potentially having this information are missing from the pdf.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	The study used sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability and uncertainty were accounted for in the measurements and between study groups.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Target chemical concentrations were reported and sufficient evidence was presented to confirm that the parent compound disappearance was not due to some other process.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Not applicable
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	Not applicable
Overall Quality Determination			High	

* Related References: Data included in HSDB PubMed profile

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; ready biodegradability; Experimental; OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Blank and Control	Not reported; Not reported			
Oxygen and Inoculum	not specified; not specified			
Duration, Parameter, System, and Sampling Frequency	Not reported; not specified: Not reported; Not reported			
pH Adjusted and pH	Not Reported; Not reported			
Concentration	Not reported			
Composition and Test Temperature	Not reported; Not reported			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not Reported; Not Reported			
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	Not reported; Not reported; Not Reported			
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not reported; Not reported; Not reported; Not reported			
Results Remarks and Results Details	Not readily biodegradable; Not reported			
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 4:	Test Substance Stability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 3: Test Conditions				
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 5:	Test Method Suitability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 6:	Testing Conditions	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 7:	Testing Consistency	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 8:	System Type and Design	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Details regarding this metric were limited; however, additional information may be included in the primary source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The outcome of interest was reported clearly.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Due to limited information in the secondary source, the plausibility of the study results cannot be determined.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination

Medium

* Related References: Organization for Economic Cooperation and Development; Screening Information Data Set for 1,1,2-Trichloroethane, 79-00-5 p.229 (2000). Available from, as of December 26, 2007: <http://www.chem.unep.ch/irptc/sids/OECD/SIDS/sidspub.html>

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; screening test; Experimental; other: Modified shake-flask test			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Blank and Control	Not reported; Not reported			
Oxygen and Inoculum	not specified; not specified: Not reported			
Duration, Parameter, System, and Sampling Frequency	24 days; not specified: Not reported; Not reported			
pH Adjusted and pH	Not Reported; Not reported			
Concentration	Not reported			
Composition and Test Temperature	Not reported; Not reported			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not Reported; Not Reported			
Results Details Method, Results per Degradation Parameter, and	Not reported; Not reported; Not Reported			
Direct Quantum Yield Results				
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not reported; Not reported; Not reported; Not reported			
Results Remarks and Results Details	No biodegradation observed; Not reported			
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 4:	Test Substance Stability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 6:	Testing Conditions	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 7:	Testing Consistency	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 8:	System Type and Design	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Details regarding this metric were limited; however, additional information may be included in the primary source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The outcome of interest was reported clearly.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Due to limited information in the secondary source, the plausibility of the study results cannot be determined.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination

Medium

* Related References: Mudder TI; Amer Chem Soc Div Environ Chem Presentation Kansas City, MO Sept 1982 p. 52-3 (1982)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; screening test; Experimental; other: River die-away test			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Blank and Control	Not reported; Not reported			
Oxygen and Inoculum	not specified; not specified: Not reported			
Duration, Parameter, System, and Sampling Frequency	Not reported; not specified: Not reported; Not reported			
pH Adjusted and pH	Not Reported; Not reported			
Concentration	Not reported			
Composition and Test Temperature	Not reported; Not reported			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not Reported; Not Reported			
Results Details Method, Results per Degradation Parameter, and	Not reported; Not reported; Not Reported			
Direct Quantum Yield Results				
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not reported; Not reported; Not reported; Not reported			
Results Remarks and Results Details	No biodegradation observed; Not reported			
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 4:	Test Substance Stability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 6:	Testing Conditions	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 7:	Testing Consistency	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 8:	System Type and Design	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Details regarding this metric were limited; however, additional information may be included in the primary source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The outcome of interest was reported clearly.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Due to limited information in the secondary source, the plausibility of the study results cannot be determined.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination**Medium**

* Related References: Mudder TI; Amer Chem Soc Div Environ Chem Presentation Kansas City, MO Sept 1982 p. 52-3 (1982)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; screening test; Experimental; OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I)): Japanese MITI test			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Blank and Control	Not reported; Not reported			
Oxygen and Inoculum	not specified; activated sludge (adaptation not specified): 30 mg/L activated sludge inoculum			
Duration, Parameter, System, and Sampling Frequency	4 weeks; test mat.: Not reported; Not reported			
pH Adjusted and pH	Not Reported; Not reported			
Concentration	100 mg/L			
Composition and Test Temperature	Not reported; Not reported			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; Not Reported; Not Reported			
Results Details Method, Results per Degradation Parameter, and	Not reported; Theoretical BOD; Not Reported			
Direct Quantum Yield Results				
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	5%; Not reported; 4 week; Not reported			
Results Remarks and Results Details	Not reported; Not reported			
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 4:	Test Substance Stability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 6:	Testing Conditions	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 7:	Testing Consistency	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
	Metric 8:	System Type and Design	Medium	Details regarding this metric were not reported; however, additional information may be included in the primary source.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	Medium	Details regarding this metric were limited; however, additional information may be included in the primary source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis	Metric 15:	Data Reporting	High	The outcome of interest was reported clearly.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other	Metric 17:	Verification or Plausibility of Results	Medium	Due to limited information in the secondary source, the plausibility of the study results cannot be determined.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.

Overall Quality Determination**Medium**

* Related References: Chemicals Inspection and Testing Institute. Japan Chemical Industry Ecology - Toxicology and Information Center. Available at: http://www.safe.nite.go.jp/data/hazkizon/pk_e_kizon_input_second.home_object as of Feb 17, 2008.

Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	7681897

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; Not Reported
Confidentiality, EndPoint, Type, Guideline	Not Reported; Degradation products; experimental; other: not specified
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Blank and Control	Not Reported; Not Reported
Oxygen and Inoculum	Not Reported; anaerobic sludge: microbes from an anaerobic digester at a municipal wastewater treatment facility
Duration, Parameter, System, and Sampling Frequency	Not Reported; Not Reported; Not Reported; Not Reported
pH Adjusted and pH	Not Reported; Not Reported
Concentration	Not Reported
Composition and Test Temperature	Not Reported; Not Reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Not Reported; Not Reported
Results Details Method, Results per Degradation Parameter, and	Not Reported; Not Reported; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not Reported; Not Reported; Not Reported; Not Reported
Results Remarks and Results Details	Degradation product: Vinyl chloride; Not Reported
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported

EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to the study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to the study type.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to the study type.

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Study Citation:		NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.		
OECD Harmonized Template:		Biodegradation in Water		
HERO ID:		7681897		
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to the study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to the study type.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to the study type.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to the study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to the study type.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to the study type.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited details reported in secondary source; primary source cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

Overall Quality Determination

Low

* Related References: Primary source (not available at time of extraction): Hallen RT et al; ACS Div Environ Chem 192nd Natl Mtg 26: 344-6 (1986)

Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	7681897

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; Not Reported
Confidentiality, EndPoint, Type, Guideline	Not Reported; other; experimental; other: not specified
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Blank and Control	Not Reported; Not Reported
Oxygen and Inoculum	anaerobic; not specified: unpolluted anaerobic aquifer
Duration, Parameter, System, and Sampling Frequency	Not Reported; Not Reported: Not Reported; Not Reported
pH Adjusted and pH	Not Reported; Not Reported
Concentration	Not Reported
Composition and Test Temperature	Not Reported; Not Reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Not Reported; Not Reported
Results Details Method, Results per Degradation Parameter, and	Not Reported; Not Reported; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not Reported; Not Reported; Not Reported; Not Reported
Results Remarks and Results Details	Half-life: 6 days (1% organic carbon content), 26 days (0.1% organic carbon content), 335 days (0.01% organic carbon content), and 16 years (0.001% organiccarbon content); Not Reported
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to the study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to the study type.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to the study type.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to the study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to the study type.

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Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	7681897			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to the study type.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 6: Confounding/Variable Control	Metric 13:	Confounding Variables	N/A	The metric is not applicable to the study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis	Metric 15:	Data Reporting	N/A	The metric is not applicable to the study type.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to the study type.
Domain 8: Other	Metric 17:	Verification or Plausibility of Results	Low	Limited details reported in secondary source; primary source cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

Overall Quality Determination

Low

* Related References: Primary source (not available at time of extraction): Verschueren K; Handbook of Environmental Data on Organic Chemicals. Volumes 1-2. 4th ed. John Wiley & Sons. New York, NYpp 2064-2066 (2001)[Note: Duplicate HSDB HERO ID 5926162 which most pChem data is entered under.]

Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	7681897			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	Not Reported; Not Reported			
Confidentiality, EndPoint, Type, Guideline	Not Reported; other: experimental; other: not specified			
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported			
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported			
Blank and Control	Not Reported; Not Reported			
Oxygen and Inoculum	anaerobic; not specified			
Duration, Parameter, System, and Sampling Frequency	Not Reported; Not Reported: Not Reported; Not Reported			
pH Adjusted and pH	Not Reported; Not Reported			
Concentration	Not Reported			
Composition and Test Temperature	Not Reported; Not Reported			
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Not Reported; Not Reported			
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	Not Reported; Not Reported; Not Reported			
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not Reported; Not Reported; Not Reported; Not Reported			
Results Remarks and Results Details	Half-life: 722-1444 days (calculated from rate constant); biodegradation rate constant: 0.00048 to 0.00096 /days			
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to the study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to the study type.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to the study type.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to the study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to the study type.
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Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	7681897			
Domain		Metric	EVALUATION Rating	Comments
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to the study type.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to the study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to the study type.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to the study type.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited details reported in secondary source; primary source cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

Overall Quality Determination

Medium

* Related References: Primary source (HERO ID 29959): Rathbun RE; US Geol Surv Prof Pap 1589: 1-151(1998)

Study Citation:	OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5176387

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, EndPoint, Type, Guideline	Not Reported; Not Reported; Not Reported; OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Blank and Control	Not Reported; Not Reported
Oxygen and Inoculum	Not Reported; Not Reported
Duration, Parameter, System, and Sampling Frequency	Not Reported; Not Reported; Not Reported; Not Reported
pH Adjusted and pH	Not Reported; Not Reported
Concentration	Not Reported
Composition and Test Temperature	Not Reported; Not Reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Not Reported; Not Reported
Results Details Method, Results per Degradation Parameter, and	Not Reported; Not Reported; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	Not Reported; Not Reported; Not Reported; Not Reported
Results Remarks and Results Details	not readily biodegradable; Not Reported
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported

EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.

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Study Citation:		OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.		
OECD Harmonized Template:		Biodegradation in Water		
HERO ID:		5176387		
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited detail in this secondary source; primary source not cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.

Overall Quality Determination**High**

* Related References: Not explicitly cited; however, primary source is likely: Ministry of Health, Labour and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals 10 (2003) Publication in progress

Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5185306

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, EndPoint, Type, Guideline	Not Reported; Not Reported; Not Reported; OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; 99%
Blank and Control	Not Reported; Not Reported
Oxygen and Inoculum	aerobic; Not Reported
Duration, Parameter, System, and Sampling Frequency	Not Reported; Not Reported; Not Reported; Not Reported
pH Adjusted and pH	Not Reported; Not Reported
Concentration	Not Reported
Composition and Test Temperature	Not Reported; Not Reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not Reported; Not Reported; Not Reported; Not Reported
Results Details Method, Results per Degradation Parameter, and	Not Reported; Not Reported; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	5%; Not Reported; 28 days; Not Reported
Results Remarks and Results Details	not readily biodegradable; BOD measurement could not be carried out, because the test substance reacts with CO2 adsorbent. Residual amount of test substance was measured by GC analysis.
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	High	Purity of the test substance was reported.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.

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Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5185306			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Limited details; trusted source with primary source citation.
	Metric 18:	QSAR Models	N/A	The metric is not applicable.

Overall Quality Determination

High

* Related References: Source cited: MITI, JAPAN

Study Citation:	Patterson, B. M., Lee, M., Bastow, T. P., Wilson, J. T., Donn, M. J., Furness, A., Goodwin, B., Manefield, M. (2016). Concentration effects on biotic and abiotic processes in the removal of 1,1,2-trichloroethane and vinyl chloride using carbon-amended ZVI. Journal of Contaminant Hydrology 188:1-11.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	4697082

EXTRACTION

Parameter	Data
CASRN and Test Material	Not Reported; 1,1,2-trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; other; Experimental; other: none; 888 day laboratory column study
Solvent, Reactivity, Storage, Stability	groundwater; none; NR; NR
Radiolabel, Source, State, Purity	NR; contaminated groundwater; NR; NR Notes: NR
Blank and Control	NA; NA
Oxygen and Inoculum	Anaerobic; other:: Groundwater had Dehalobacter and Desulfitobacterium present in influent; on day 432 the column was inoculated with two microbial cultures from two field sites contaminated with chlorinated solvents.
Duration, Parameter, System, and Sampling Frequency	888 days; test mat.: Zero valent iron (ZVI) and a biodegradable organic carbon; NR; figures show multiple, intermittent sampling
pH Adjusted and pH	NR; 7.2
Concentration	39 - mg/L 170 mg/L
Composition and Test Temperature	contaminated groundwater from two bores near (downgradient) a petrochemical plant that manufactured VC; NR
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	NA; NA; yes (stainless steel column); groundwater pumped through a stainless steel column that was 2.0m in height with a 14.5cm internal diameter with a 0.5m layer of sand, followed by a 0.5 m layer of PRB material (20% (w/w) the ZVI/organic carbon amendment and 80% sand), followed by a 1.0 m layer of sand. Influent water flow rate was reduced on day 218 and concentration reduced on day 549. Bioaugmentation on day 432.
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	headspace gas chromatography–mass spectrometry (GC–MS) analysis, headspace gas chromatography-flame ionization detector (GC-FID) analysis and 13C compound specific isotope analysis; chemical concentration; NA
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	50%/4.4 days; 0.4 days; day 440 (approx.); NA
Results Remarks and Results Details	Initial degradation half-life = 4.4 ± 0.4 days and 0.83 ± 0.17 days after influent concentration of 1,1,2-TCA changed from 170 ± 20 mg/L to 39 ± 11 mg/L. Degradation products were vinyl chloride (VC), 1,1-dichloroethene (1,1-DCE) and 1,2-dichloroethane (1,2-DCA).; Not Reported
Results Mean Total Recovery and Results per Recovery	internal standard of fluorobenzene in methanol used during analysis; NA

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1: Test Substance Identity	High	The test substance was identified definitively.
	Metric 2: Test Substance Purity	High	The source or purity of the test substance was reported or the test substance identity and purity were verified by analytical means.
Domain 2: Test Design			
	Metric 3: Study Controls	N/A	The study did not require concurrent control groups.

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Study Citation:		Patterson, B. M., Lee, M., Bastow, T. P., Wilson, J. T., Donn, M. J., Furness, A., Goodwin, B., Manefield, M. (2016). Concentration effects on biotic and abiotic processes in the removal of 1,1,2-trichloroethane and vinyl chloride using carbon-amended ZVI. Journal of Contaminant Hydrology 188:1-11.		
OECD Harmonized Template:		Biodegradation in Water		
HERO ID:		4697082		
Domain	Metric	EVALUATION		Comments
	Metric 4:	Test Substance Stability	Rating Medium	Some test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	There were omissions in testing conditions; however, sufficient data were reported to determine that the deviations and omissions were not likely to have a substantial impact on study results.
	Metric 7:	Testing Consistency	N/A	This study did not require multiple study groups.
	Metric 8:	System Type and Design	High	Equilibrium was established. The system type and design were capable of appropriately maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The test organism information or inoculum source were reported.
	Metric 10:	Sampling Methods	N/A	This study did not require multiple study groups.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome(s) of interest.
	Metric 12:	Test Substance Purity	High	The study reported the use of sampling methods that address the outcome(s) of interest, and used widely accepted methods/approaches for the chemical and media being analyzed. No notable uncertainties or limitations were expected to influence results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of variability and uncertainty in the measurements, and statistical techniques and between study groups (if applicable) were considered and accounted for in data evaluation.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Some target chemical and transformation product(s) concentrations, extraction efficiency, percent recovery, or mass balance were not reported; however, these omissions were not likely to have a substantial impact on study results
	Metric 16:	Statistical Methods and Kinetic Calculations	Uninformative	The authors of the study propose a novel remediation approach that has supplemental biodegradation relevance; however, this study uses permeable reactive barrier, as a result the biodegradation rate data is not environmentally relevant.
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Study Citation:	Patterson, B. M., Lee, M., Bastow, T. P., Wilson, J. T., Donn, M. J., Furness, A., Goodwin, B., Manefield, M. (2016). Concentration effects on biotic and abiotic processes in the removal of 1,1,2-trichloroethane and vinyl chloride using carbon-amended ZVI. Journal of Contaminant Hydrology 188:1-11.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	4697082			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Uninformative	The study results were reasonable but not environmentally relevant.
	Metric 18:	QSAR Models	N/A	A QSAR model was not reported.
Overall Quality Determination		Uninformative		

Study Citation:	Tabak, H. H., Quave, S. A., Mashni, C. I., Barth, E. F. (1981). Biodegradability studies with organic priority pollutant compounds. Journal of Water Pollution Control Federation 53(10):1503-1518.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	9861

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; screening test; Experimental; other: Biodegradation in domestic wastewater, static-culture flask-screening
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	Not Reported; NR; NR; NR
Blank and Control	Synthetic medium containing 5mg yeast extract; Not reported
Oxygen and Inoculum	aerobic; sewage, domestic, non-adapted: Weekly "subcultures" involved adding fresh test samples to existing cultures to test for inoculum adaptation.
Duration, Parameter, System, and Sampling Frequency	28 days (includes 7 day static incubation and 3 weekly subcultures); test mat.: Static-culture in 250 mL Erlenmeyer flask.; Days 7, 14, 21, and 28
pH Adjusted and pH	Not Reported; Not reported
Concentration	5 - 10 mg/L
Composition and Test Temperature	BOD dilution water with 5 mg/L yeast extract; 25°C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; Not reported; yes; Homogenous suspensions of the test substance in the chilled synthetic medium were prepared in a heavy duty blender for 2 minutes. Replicate studies with 5 mg/L and 10 mg/L substrate.
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	GC and TOC determinations. GC LOD: 0.1 mg/L; Average loss of test substance after 7 days; Not Reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	6-44% (at 5 mg/L); 0-39% (at 10 mg/L); Not reported; 7 days; Not reported
Results Remarks and Results Details	"Very slow" biodegradation, with long adaptation; 15% volatilization loss at 5mg/l; 3% volatilization loss at 10mg/l (at 25°C)
Results Mean Total Recovery and Results per Recovery	Not Reported; Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified using common nomenclature.
	Metric 2:	Test Substance Purity	N/A	The test substance purity was not reported; however, the omission is unlikely to have an impact on the study results.
Domain 2: Test Design	Metric 3:	Study Controls	High	Appropriate blanks were used without inoculum and without substrate.
	Metric 4:	Test Substance Stability	High	The test substance preparation and storage conditions were reported and appropriate.

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Study Citation:	Tabak, H. H., Quave, S. A., Mashni, C. I., Barth, E. F. (1981). Biodegradability studies with organic priority pollutant compounds. Journal of Water Pollution Control Federation 53(10):1503-1518.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	9861			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Low	The test substance was tested above its aqueous solubility which may have had an impact on the study results.
	Metric 6:	Testing Conditions	High	The testing conditions were reported and appropriate.
	Metric 7:	Testing Consistency	High	The testing conditions were consistent across the sample groups.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The inoculum type was reported and appropriate for the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	The sampling methods were reported and appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Sources of uncertainty were not reported which may impact the study results.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The data reporting was appropriate, percentage removal of the test substance was reported, and the analytical method was suitable.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Statistical analysis was not reported; however, the omission is unlikely to have a substantial impact on the study results.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination			High	

Study Citation:	Van Eekert, M. H., Stams, A. J., Field, J. A. (1999). Gratuitous dechlorination of chloroethanes by methanogenic granular sludge. Applied Microbiology and Biotechnology 51(1):46-52.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	645784

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; other; Experimental; other: Static batch experiments using methanogenic sludge for the dechlorination of chloroethanes.
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; E. Merck (Amsterdam, The Netherlands); NR; NR; p.a. quality Notes: 1,1,2-C2H3Cl3
Blank and Control	Autoclaved sludge and no sludge controls included; Not reported
Oxygen and Inoculum	anaerobic; anaerobic sludge: Granular sludge: unadapted methanogenic consortium grown in UASB reactor, methanol as the carbon source.
Duration, Parameter, System, and Sampling Frequency	25 days; test mat.: Sealed bottles; Not reported
pH Adjusted and pH	Not Reported; 7.2-7.3
Concentration	1500 other
Composition and Test Temperature	Methanol: 58 mM; test substance in acetone: 1500 nmol;; 30°C
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	Not reported; No; Not reported; Amount of sludge: 79.5 mg VSS/batch (living sludge); 73.1 mg VSS/batch (autoclaved sludge)
Results Details Method, Results per Degradation Parameter, and	Total mass measured by head-space analysis using GC/FID; %Ct/C0: concentration after time t divided by concentration at time 0; Not Reported
Direct Quantum Yield Results	
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	85.8; Not reported; Not reported; 51.1%, Removal rate constant=20 nmol/day; 0.3 umol g/VSS day; 44.3% Removal rate constant=70 nmol/day, the test substance was converted by direct chemical reactions in sterile medium with no sludge
Results Remarks and Results Details	Transformation products, main: C2H3Cl (39.5%); minor: 1,2-C2H4Cl2 (10.9%), C2H4 (3.8%), 1,1-C2H2Cl2/C2H6 (trace); C2H3Cl (18.4%; autoclaved control); Removal rate constant=280 nmol/day; 3.5 umol g/VSS day
Results Mean Total Recovery and Results per Recovery	Not reported; Not reported

EVALUATION				
Domain		Metric	Rating	Comments
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified clearly.
	Metric 2:	Test Substance Purity	High	The test substance source and purity or quality were reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 4:	Test Substance Stability	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 3: Test Conditions				

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Study Citation:	Van Eekert, M. H., Stams, A. J., Field, J. A. (1999). Gratuitous dechlorination of chloroethanes by methanogenic granular sludge. Applied Microbiology and Biotechnology 51(1):46-52.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	645784			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 7:	Testing Consistency	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 8:	System Type and Design	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The test organism information or inoculum source were reported.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Details omitted; however, the lack of data is not likely to hinder the interpretation of the results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical analysis were reported and acceptable.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		High		

Study Citation:	Yang, J., Zhang, Q., Fu, X., Chen, H., Hu, P., Wang, L. (2019). Natural attenuation mechanism and health risk assessment of 1,1,2-trichloroethane in contaminated groundwater. Journal of Environmental Management 242:457-464.
OECD Harmonized Template:	Biodegradation in Water
HERO ID:	5440645

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; 1,1,2-trichloroethane
Confidentiality, EndPoint, Type, Guideline	None; other; experimental; other: Non-guideline: natural attenuation in groundwater
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Blank and Control	Not Reported; Not Reported
Oxygen and Inoculum	Not Reported; Not Reported: 1,1,2-TCA-contaminated sites located in a chemical industry field in east China were monitored between June 2016 to June 2018; a first-order decay kinetics model was applied to simulate attenuation.
Duration, Parameter, System, and Sampling Frequency	monitoring conducted for 2 years; Not Reported: Field study; Samples collected using groundwater microflow sampling equipment; stored at 4°C and analyzed within 7 days of collection.
pH Adjusted and pH	not reported; not reported
Concentration	= 0 - = 759000 µg/L
Composition and Test Temperature	not reported; not reported
CEC, Water Aeration Dilution, Continuous Darkness, and Other Design	not reported; not reported; not reported; Site groundwater monitoring conducted via 47 monitoring wells in and around contaminated fields at a depth of 14m.
Results Details Method, Results per Degradation Parameter, and Direct Quantum Yield Results	Purge & trap GC-MS; not reported; not reported
Results Value, Results Standard Deviation, Results Sample Time, and Results Reference Substance Compartments	not reported; not reported; not reported; not reported
Results Remarks and Results Details	Concentrations appeared to decline in groundwater at a depth of 14m; correlation coefficients, r-squared, for five sites used for rate constant determination were 0.9945, 0.9912, 0.8494, 0.7986, and 0.9191.; Attenuation rate constants = 1.1679/year, 1.0177/year, 2.6132/year, 1.4444/year and 2.6461/year(obtained from linear regression and first-order attenuation kinetic equations based on results from five sites)
Results Mean Total Recovery and Results per Recovery	blank spike recovery ranged from 80-120% in groundwater and 83-103% in matrix samples, surrogate standard recoveries ranged from 87-103%; not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified clearly.
	Metric 2:	Test Substance Purity	N/A	Field study; analytical surrogate standards used.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this study type.

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Study Citation:	Yang, J., Zhang, Q., Fu, X., Chen, H., Hu, P., Wang, L. (2019). Natural attenuation mechanism and health risk assessment of 1,1,2-trichloroethane in contaminated groundwater. Journal of Environmental Management 242:457-464.			
OECD Harmonized Template:	Biodegradation in Water			
HERO ID:	5440645			
Domain		Metric	EVALUATION Rating	Comments
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for this type of study.
	Metric 6:	Testing Conditions	Low	Limited detail regarding site characteristics.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this study type.
	Metric 8:	System Type and Design	High	Field study using monitoring wells; equilibrium, assumed.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Low	Microbial viability of site not specifically evaluated.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	Sampling was appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Statistical techniques were appropriate.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Analytical details were omitted; insufficient evidence presented to confirm that parent compound disappearance was not likely due to multiple processes.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods or kinetic calculations were clearly described and address the datasets.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Results were reasonable for this type of study; however, limited information was presented to validate the loss process could be attributed to degradation alone.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this type of study.
Overall Quality Determination			Medium	

Study Citation:	Chen, C., Puhakka, J. A., Ferguson, J. F. (1996). Transformations of 1,1,2,2-tetrachloroethane under methanogenic conditions. Environmental Science & Technology 30(2):542-547.
OECD Harmonized Template:	Biodegradation in Sediment
HERO ID:	3572391

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, EndPoint, Type, Guideline	None; other; Experimental; other: Not reported; biodegradation in anaerobic sludge
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NA; Aldrich Chemical Company, Inc., Milwaukee, Wi; NR; 98%
Oxygen and Inoculum	anaerobic; activated sludge (adaptation not specified): Anaerobic sludge from laboratory-scale municipal sludge digester (had been fed with primary and waste-activated sludge spiked with chlorinated compounds)
Duration, Parameter, System, and Sampling Frequency	21 d; test mat.; Bottle bioassay procedure described elsewhere, bottles sealed with butyl rubber stoppers and aluminum crimp cap; Daily during first week, then every 2-3 days
Results Sample Time, Compartment, Sludge Compartment, Water Compartment, CEC, and pH	21 d; Aqueous samples analyzed; Sludge; Not reported; Not reported; NR; source sludge operated at pH 7
Control Dark, Control, and Blank	Not Reported; Not reported; reduced anaerobic mineral media and Na2S (sterile); sonicated, filtered biological media with Ti+3 citrate (abiotic control)
Concentration	15 µmol/L
Analytical Method, Analytical Details, and Results Per Degredation Parameter	Perkin-Elmer 8700 gas chromatography and electrolytic conductivity detector; Tekmar ALS-LSC purge and trap system; Restek Rtx 502.2 bore capillary column separated the analytes; Not reported; 7
Results Remarks	Test substance remaining: Approx. 100%/0d, 65%/2d, 30%/4d, 20%/6d, 5%/12d, 0%/14d, 0%/21d
Half-life, Standard Deviation Results, Reference Substance Results, and Reference Substance Compartment Results	Not reported; Not reported; Sterile and abiotic blanks; No transformation
Results Details	Not reported
Mean Total Recovery Results and Results Per Recovery	Not reported; Not reported
Results Value, Direct Quantum Yield Results, and Transformation Products	100%; Not Reported; Vinyl chloride (80%), 1,2-dichloroethane (20%), and ethene (<3%)

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	High	Test substance source and purity were reported.
Domain 2: Test Design	Metric 3:	Study Controls	High	Sterile and abiotic controls were included and responded appropriately.
	Metric 4:	Test Substance Stability	High	Test substance initial concentration was reported.

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Study Citation:	Chen, C., Puhakka, J. A., Ferguson, J. F. (1996). Transformations of 1,1,2,2-tetrachloroethane under methanogenic conditions. Environmental Science & Technology 30(2):542-547.			
OECD Harmonized Template:	Biodegradation in Sediment			
HERO ID:	3572391			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was appropriate for the test substance.
	Metric 6:	Testing Conditions	Medium	Some test conditions were not reported, including pH.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	High	The inoculum source was reported and appropriate.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the outcomes of interest.
	Metric 12:	Test Substance Purity	Medium	Sampling methods and preparation were not reported but frequency was appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Variability was not explicitly addressed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Data reported graphically. Limits of detection were not reported, percent recovery or mass balance not reported, extraction efficiency not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis and kinetic calculations were not applied.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		High		

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Sediment			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; inherent biodegradability; Experimental; other: Guideline not specified			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Oxygen and Inoculum	anaerobic; natural water / sediment: Unpolluted aquifer			
Duration, Parameter, System, and Sampling Frequency	Not reported; not specified; Not reported; Not reported			
Results Sample Time, Compartment, Sludge Compartment, Water Compartment, CEC, and pH	Not reported; Not reported; Not reported; Not reported; Not reported; Not reported			
Control Dark, Control, and Blank Concentration	Not Reported; Not reported; Not reported			
Analytical Method, Analytical Details, and Results Per Degredation Parameter	Not reported; Not reported; Not Reported			
Results Remarks	Results reported based on 0.001%, 0.01%, 0.1%, and 1% organic carbon content of aquifer material			
Half-life, Standard Deviation Results, Reference Substance Results, and Reference Substance Compartment Results	16 yr, 335 d, 26 d, and 6 d; Not reported; Not reported; Not reported			
Results Details	half-life: 6 days (1% organic carbon content), 26 days (0.1% organic carbon content), 335 days (0.01% organic carbon content) and 16 years (0.001% organic carbon content); in an unpolluted anaerobic aquifer			
Mean Total Recovery Results and Results Per Recovery	Not reported; Not reported			
Results Value, Direct Quantum Yield Results, and Transformation Products	Not reported; Not Reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1: Test Substance Identity	High	The test substance was identified by name.	
	Metric 2: Test Substance Purity	Medium	The test substance source and purity were not reported in the secondary source.	
Domain 2: Test Design	Metric 3: Study Controls	Medium	Concurrent control group details were not reported in the secondary source.	
	Metric 4: Test Substance Stability	Medium	Test substance stability, homogeneity, preparation, and storage conditions were not reported in the secondary source.	
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Sediment			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Medium	Test method details were not reported in the secondary source however there is no indication that the methodology for producing the information was biased towards a particular outcome.
	Metric 6:	Testing Conditions	Medium	Most testing conditions are unknown but are likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 7:	Testing Consistency	Medium	Testing consistency is unknown but are likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Limited information on inoculum reported in the secondary source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	The outcome assessment methodology is unknown but is likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 12:	Test Substance Purity	Medium	Sampling methodology is unknown is unknown but is likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty were not reported in the secondary source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Limited data is reported in the secondary source but study data are likely to be appropriate based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Kinetic calculations were not described in the secondary source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer- reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.

Overall Quality Determination

Medium

* Related References: Verschueren K; Handbook of Environmental Data on Organic Chemicals. Volumes 1-2. 4th ed. John Wiley & Sons. New York, NY pp 2064-2066 (2001)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; inherent biodegradability; Experimental; other: Guideline not specified			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Oxygen, pH, and CEC	not specified; Not reported; Not reported			
Test Type, Test Temperature, and Test Details	laboratory; Not reported; Not reported			
Soil Type, Clay Silts and Organic Carbon, and Bulk Density	other; Not reported; Not reported			
Soil Classification, Microbial Biomass, and Humidity	Sandy soil; Not reported: Not reported			
Duration, Parameter, System, and Sampling Frequency	Not reported; not specified; Column; Not reported			
Control and Blank	Not reported; Not reported			
Concentration	Not reported			
Analytical Method, Analytical Details, and Results Per Degredation Parameter	Not reported; Not reported; Not reported			
Results Remarks	No loss attributed to biodegradation			
Results Value, Standard Deviation Results, Sample Time Results, Reference Substance Results, and References Substance Compartment Results	Not reported; Not reported; Not reported; Not reported; Not reported			
Results Details	Not reported			
Mean Total Recovery Results and Results Per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 4:	Test Substance Stability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 3: Test Conditions				
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 5:	Test Method Suitability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 6:	Testing Conditions	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 7:	Testing Consistency	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 10:	Sampling Methods	N/A	Rating of this factor is not applicable to this kind of information.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.
Overall Quality Determination		Medium		

* Related References: Wilson JT et al; J Environ Qual 10: 501-6 (1981)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
EXTRACTION				
Parameter		Data		
CASRN and Test Material		79-00-5; 1,1,2-TCA		
Confidentiality, EndPoint, Type, Guideline		None; inherent biodegradability; Experimental; other: Guideline not specified		
Solvent, Reactivity, Storage, Stability		NR; NR; NR; NR		
Radiolabel, Source, State, Purity		NR; NR; NR; NR		
Oxygen, pH, and CEC		aerobic; Not reported; Not reported		
Test Type, Test Temperature, and Test Details		not specified; Not reported; Not reported		
Soil Type, Clay Silts and Organic Carbon, and Bulk Density		Not Reported; Not reported; Not reported		
Soil Classification, Microbial Biomass, and Humidity		Not reported; Not reported: Not reported		
Duration, Parameter, System, and Sampling Frequency		Not reported; not specified; Not reported; Not reported		
Control and Blank		Not reported; Not reported		
Concentration		Not reported		
Analytical Method, Analytical Details, and Results Per Degredation Parameter		Not reported; Not reported; Not reported		
Results Remarks		Biodegrades slowly, half-life 6 mo to 1 yr		
Results Value, Standard Deviation Results, Sample Time Results, Reference Substance Results, and Referencs Substance Compartment Results		Not reported; Not reported; Not reported; Not reported; Not reported		
Results Details		Not reported		
Mean Total Recovery Results and Results Per Recovery		Not reported; Not reported		
EVALUATION				
Domain		Metric	Rating	Comments
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported in the secondary source.
Domain 2: Test Design				
	Metric 3:	Study Controls	Medium	Concurrent control group details were not reported in the secondary source.
	Metric 4:	Test Substance Stability	Medium	Test substance stability, homogeneity, preparation, and storage conditions were not reported in the secondary source.
Domain 3: Test Conditions				
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
Domain	Metric	EVALUATION Rating	Comments	
	Metric 5:	Test Method Suitability	Medium	Test method details were not reported in the secondary source however there is no indication that the methodology for producing the information was biased towards a particular outcome.
	Metric 6:	Testing Conditions	Medium	Testing conditions are unknown but are likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 7:	Testing Consistency	Medium	Testing consistency is unknown but are likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Inoculum information was not reported in the secondary source.
	Metric 10:	Sampling Methods	N/A	Rating of this factor is not applicable to this kind of information.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	The outcome assessment methodology is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 12:	Test Substance Purity	Medium	Sampling methodology is unknown is unknown but is likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty were not reported in the secondary source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Limited data is reported in the secondary source but study data are likely to be appropriate based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Kinetic calculation details were not reported in the secondary source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.

Overall Quality Determination

Medium

* Related References: Primary reference is HERO ID 29959: Rathbun RE; US Geol Surv Prof Pap 1589: 1-151 (1998)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; inherent biodegradability; Experimental; other: Guideline not specified			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Oxygen, pH, and CEC	anaerobic; Not reported; Not reported			
Test Type, Test Temperature, and Test Details	not specified; Not reported; Not reported			
Soil Type, Clay Silts and Organic Carbon, and Bulk Density	Not Reported; Not reported; Not reported			
Soil Classification, Microbial Biomass, and Humidity	Not reported; Not reported: Not reported			
Duration, Parameter, System, and Sampling Frequency	Not reported; not specified; Not reported; Not reported			
Control and Blank	Not reported; Not reported			
Concentration	Not reported			
Analytical Method, Analytical Details, and Results Per Degredation Parameter	Not reported; Not reported; Not reported			
Results Remarks	half-lives range from 722-1444 days			
Results Value, Standard Deviation Results, Sample Time Results, Reference Substance Results, and References Substance Compartment Results	Not reported; Not reported; Not reported; Not reported; Not reported			
Results Details	Anerobic biodegradation rate constant: 0.00048 - 0.00096/d			
Mean Total Recovery Results and Results Per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 4:	Test Substance Stability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 6:	Testing Conditions	Medium	Not reported in this secondary source; the primary source likely contains more detail.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 7:	Testing Consistency	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 8:	System Type and Design	N/A	Rating of this factor is not applicable to this kind of information.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 10:	Sampling Methods	N/A	Rating of this factor is not applicable to this kind of information.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.

Overall Quality Determination**Medium**

* Related References: Primary reference is HERO ID 29959: Rathbun RE; US Geol Surv Prof Pap 1589: 1-151 (1998)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, EndPoint, Type, Guideline	None; inherent biodegradability; Experimental; other: Guideline not specified			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Oxygen, pH, and CEC	not specified; Not reported; Not reported			
Test Type, Test Temperature, and Test Details	laboratory; Not reported; Not reported			
Soil Type, Clay Silts and Organic Carbon, and Bulk Density	other; Not reported; Not reported			
Soil Classification, Microbial Biomass, and Humidity	5 m deep subsurface soil samples; Not reported: Not reported			
Duration, Parameter, System, and Sampling Frequency	16 wk; not specified; Not reported; incubation with non-sterilized subsurface soil samplesoil; Not reported			
Control and Blank	Not reported; Sterilized soil sample			
Concentration	Not reported			
Analytical Method, Analytical Details, and Results Per Degredation Parameter	Not reported; Not reported; Not reported			
Results Remarks	No significant degradation in non-sterilized soil.			
Results Value, Standard Deviation Results, Sample Time Results, Reference Substance Results, and References Substance Compartment Results	Not reported; Not reported; Not reported; Sterilized soil sample; No significant degradation			
Results Details	Not reported			
Mean Total Recovery Results and Results Per Recovery	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Negative control=sterilized soil.
	Metric 4:	Test Substance Stability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 6:	Testing Conditions	Medium	Not reported in this secondary source; the primary source likely contains more detail.
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Biodegradation in Soil			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 7:	Testing Consistency	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 8:	System Type and Design	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 10:	Sampling Methods	N/A	Rating of this factor is not applicable to this kind of information.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	Rating of this factor is not applicable to this kind of information.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.
Overall Quality Determination			Medium	

* Related References: Wilson JT et al; Ground Water 21: 134-42 (1983)

Study Citation:	OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.
OECD Harmonized Template:	Aquatic Bioconcentration
HERO ID:	5176387

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, Type, and Guideline	Not Reported; Not Reported; OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish) - [before 14 June 1996]
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Test Organism and Test Organism Details	Not Reported; Not Reported
Lipid Content, Test Temperature, pH, and Depuration Time	Not Reported; Not Reported; Not Reported; Not Reported
Media Type, TOC, and Salinity	Not Reported; Not Reported; Not Reported
Dissolved Oxygen, Conductivity, and Hardness	Not Reported; Not Reported; Not Reported
Exposure Route, Elimination, and Nominal Measurements	Not Reported; Not Reported; Not Reported
Test Type, Test Temperature, and Test Condition	Not Reported; Not Reported; Not Reported
Comments	
Duration, Parameter, and Sampling Frequency	Not Reported; Not Reported; Not Reported
Concentration	Not Reported
Analytical Method and Analytical Details	Not Reported; Not Reported;
Rate Constant and Results per Recovery	Not Reported; Not Reported
Statistics, Basis, and Calculation Basis	Not Reported; Not Reported; Not Reported
Results Value and Results Details	Not Reported; Measured bioconcentration factor = 0.7-4.0.
Metabolites, Reference, and Results Reference Substance	Not Reported; Not Reported; Not Reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1: Test Substance Identity	High	The test substance was identified.
	Metric 2: Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 2: Test Design	Metric 3: Study Controls	N/A	The metric is not applicable to this source.
	Metric 4: Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5: Test Method Suitability	N/A	The metric is not applicable to this source.
	Metric 6: Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7: Testing Consistency	N/A	The metric is not applicable to this source.

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Study Citation:		OECD, (2003). Assessment report for post-SIDS testing results: 1,1,2 trichloroethane.		
OECD Harmonized Template:		Aquatic Bioconcentration		
HERO ID:		5176387		
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited detail in this secondary source; primary source not cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.

Overall Quality Determination

High

* Related References: Not explicitly cited; however, primary source is likely: Ministry of Health, Labour and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals 10 (2003) Publication in progress

Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.
OECD Harmonized Template:	Aquatic Bioconcentration
HERO ID:	5185306

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, Type, and Guideline	Not Reported; Not Reported; OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish) - [before 14 June 1996]
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; 99%
Test Organism and Test Organism Details	Carp (Cyprinus carpio); Not Reported
Lipid Content, Test Temperature, pH, and Depuration Time	Not Reported; 25C; Not Reported; Not Reported
Media Type, TOC, and Salinity	Not Reported; Not Reported; Not Reported
Dissolved Oxygen, Conductivity, and Hardness	Not Reported; Not Reported; Not Reported
Exposure Route, Elimination, and Nominal Measurements	Not Reported; Not Reported; Not Reported
Test Type, Test Temperature, and Test Condition	flow-through; 25C; Not Reported
Comments	
Duration, Parameter, and Sampling Frequency	6 weeks; Not Reported; Not Reported
Concentration	= 0.03 - = 0.3 mg/L
Analytical Method and Analytical Details	Not Reported; Not Reported;
Rate Constant and Results per Recovery	Not Reported; Not Reported
Statistics, Basis, and Calculation Basis	Not Reported; Not Reported; Not Reported
Results Value and Results Details	Not Reported; BCF 0.7-2.6 (at 0.3 mg/L); 2.9-4.0 (at 0.03 mg/L)
Metabolites, Reference, and Results Reference Substance	Not Reported; Not Reported; Not Reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1: Test Substance Identity	High	The test substance was identified.
	Metric 2: Test Substance Purity	High	Purity was reported.
Domain 2: Test Design	Metric 3: Study Controls	N/A	The metric is not applicable to this source.
	Metric 4: Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5: Test Method Suitability	N/A	The metric is not applicable to this source.
	Metric 6: Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7: Testing Consistency	N/A	The metric is not applicable to this source.

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Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.			
OECD Harmonized Template:	Aquatic Bioconcentration			
HERO ID:	5185306			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	Limited details; trusted source with primary source citation.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.
Overall Quality Determination		High		

* Related References: Source cited: MITI, JAPAN

Study Citation:	Cabbar, C., Dogu, G., Dogu, T., McCoy, B. J., Smith, J. M. (1994). Analysis of diffusion and sorption of chlorinated hydrocarbons in soil by single-pellet moment technique. Environmental Science & Technology 28(7):1312-1319.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	661063

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: Single-pellet cell for the determination of diffusion and adsorption
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	Not Reported; NR; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Not reported; Not reported
pH, Test Temperature, Buffer, and Test Details	Not reported; 90°C; Not reported; Adsorption equilibrium constants were measured in pulse-response experiments
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; Soil pellet contained smectite, kaolin and illite clays; Not reported
Bulk Density and Matrix Details	2.97 g/m3; Soil from Afyon region in Turkey
Media, Recovery, and Statistics	Not reported; Not reported; Not reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Not reported; Not reported
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Ka = adsorption equilibrium constant; ka adsorption rate constant; Ka = 896; ka = 6.5 cm3/g s; Not reported; Not reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Not reported; Not reported
Partition Coefficient Phase and Partition Coefficient Results	Not reported; Not reported
Mass Balance	Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported; however, it was measured analytical methods.
Domain 2: Test Design	Metric 3:	Study Controls	Low	Data for study controls was not reported.

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Study Citation:	Cabbar, C., Dogu, G., Dogu, T., McCoy, B. J., Smith, J. M. (1994). Analysis of diffusion and sorption of chlorinated hydrocarbons in soil by single-pellet moment technique. Environmental Science & Technology 28(7):1312-1319.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	661063			
Domain		Metric	EVALUATION Rating	Comments
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Medium	Non-guideline method used without validation of results.
	Metric 6:	Testing Conditions	Medium	There were omissions in testing conditions; however, sufficient data were reported to determine that the omissions were not likely to have had a substantial impact on the study results.
	Metric 7:	Testing Consistency	N/A	Not applicable; multiple study groups were not reported.
	Metric 8:	System Type and Design	High	The test system type was appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	Koc not reported; however, adsorption rate constant determined.
	Metric 12:	Test Substance Purity	Medium	Minimal detail on sampling, analytical methods and standards; however, the limitations were not likely to have a substantial impact on results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	The target chemical concentrations, extraction efficiency, percent recovery, or mass balance were not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	Reasonable and consistent with properties of test substance.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Low	

Study Citation:	Finlayson, J. C., Liao, B., Droppo, I. G., Leppard, G. G., Liss, S. N. (1998). The relationship between the structure of activated sludge flocs and the sorption of hydrophobic pollutants. Water Science and Technology 37(4):353-357.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	5437872

EXTRACTION	
Parameter	Data
CASRN and Test Material	not reported; 1,1,2-trichloroethane
Confidentiality, Type, Guideline	no; experimental; other
Solvent, Reactivity, Storage, Stability	aqueous inorganic mineral solution; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Aldrich, Milwaukee, WI; dissolved in solution; reagent grade
Sampling Frequency, Sampling Details, and Number of Replicates	not reported; not reported; not reported
pH, Test Temperature, Buffer, and Test Details	7; not reported; not reported; control w/o contaminant to assess sludge floc structure
Matrix, Clay Silts and Organic Carbon, and CEC	other; not reported; composition of activated sludge: 162±28.7 mg/g VVS protein, 12.7±2.7 mg/g VSS carbohydrate, 4.5±1.7 mg/g VSS uronic acids, 11.2±2.4 mg/g VSS DNA; -0.35±0.03
Bulk Density and Matrix Details	not reported; Activated sludge: mixed liquor samples from an aeration basin of a municipal activated sludge system
Media, Recovery, and Statistics	aqueous inorganic mineral medium; not reported; not reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	not reported; not reported; not reported
Reference Substance, Reference Substance Results, and Percent Adsorption	not reported; not reported; up to 40% sorption to biomass (i.e. 40% removal by sorption), at a concentration of 2 mmol/g sorption = 0.5 mmol/g; Results normalized to mmol/g VSS basis
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	not reported; not reported; not reported; not reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	not reported; not reported
Partition Coefficient Phase and Partition Coefficient Results	not reported; not reported
Mass Balance	not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified clearly.
	Metric 2:	Test Substance Purity	High	The source and purity of the test substance were reported.
Domain 2: Test Design	Metric 3:	Study Controls	Low	Appropriate controls were not included.
	Metric 4:	Test Substance Stability	Medium	Preparation, stability and storage of test samples were not reported.

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Study Citation:	Finlayson, J. C., Liao, B., Droppo, I. G., Leppard, G. G., Liss, S. N. (1998). The relationship between the structure of activated sludge flocs and the sorption of hydrophobic pollutants. Water Science and Technology 37(4):353-357.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5437872			
Domain	Metric	EVALUATION Rating		Comments
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Medium	Limited detail regarding test methods.
	Metric 6:	Testing Conditions	Medium	Limited detail regarding test conditions.
	Metric 7:	Testing Consistency	Medium	Limited detail regarding testing consistencies.
	Metric 8:	System Type and Design	Medium	Limited detail regarding system and design.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Low	Limited detail regarding the outcome assessment; partition coefficients were not reported.
	Metric 12:	Test Substance Purity	Medium	Limited detail regarding sampling methods.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Confounding variables were not discussed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Analytical details were omitted; insufficient evidence presented to confirm that removal was not likely due to some other process.
	Metric 16:	Statistical Methods and Kinetic Calculations	Low	Statistical analysis and calculations were not described.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Due to limited information, evaluation of the reasonableness of the study results was not possible.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination		Medium		

Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	661088

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; other: Guideline not specified; soil-water partition coefficient using a two-phase batch equilibrium method.
Solvent, Reactivity, Storage, Stability	Penreco Oil 2257 (carrier oil, 98% saturated hydrocarbons, 2% unidentified aromatics); NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Once after 24 hours; Samples processed after 24 hr equilibration, both soil and water phases analyzed.; Not reported
pH, Test Temperature, Buffer, and Test Details	8.00; 20±2°C; Not reported; 150 mL glass hypo-vials with 50 g soil-phase, and 136 mL water-phase, spiked with 2870 - 8610 ug test substance sealed with Teflon lined rubber septa and aluminum ring. No headspace was left.
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 34% clay; 0.9% organic carbon; 12.4 meq/100g
Bulk Density and Matrix Details	Not reported; Skumpah Soil (Utah Playa), collected near Wendover, Utah, 26% moisture at saturation
Media, Recovery, and Statistics	Water; Not reported; Partition isotherms were linear, R ² > 0.8 and slope significantly > 0, at alpha = 0.05
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Equilibrated for 24 hr on rotary mixer at 30 rpm; Not Applicable
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Not reported; Not reported; Not reported; Not reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	log Kd: Water/soil partition coefficient (95% confidence interval); Mean measured log Kd: -0.13 (-0.21 to -0.06)
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Kd = Concentration of compound in soil ug/g divided by Concentration of compound in water ug/mL
Mass Balance	> 90% of test substance mass recovered

EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High
	Metric 2:	Test Substance Purity	Medium
Domain 2: Test Design	Metric 3:	Study Controls	Medium
	Metric 4:	Test Substance Stability	Medium

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Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	661088			
Domain		Metric	EVALUATION	
			Rating	Comments
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Appropriate test conditions, including equilibration time and soil characteristics, were reported.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	High	Equilibrium was established and the system type and design were capable of maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcomes assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	Study reported the use of sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability between measurements was addressed with statistical techniques.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Analytical methods used were suitable for detection and quantification of the target chemical and were adequately sensitive; the limits detection were reported, but extraction efficiency was not. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	The statistical methods and partition coefficient calculations were described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable based on the method but were not compared to previous studies.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination**High**

* Related References: Primary reference is cited in HSDB [NLM, 2020, 6629789]; however, the Koc values in the HSDB profile appear to be reported incorrectly

Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	661088

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; other: Guideline not specified; soil-water partition coefficient using a two-phase batch equilibrium method.
Solvent, Reactivity, Storage, Stability	Penreco Oil 2257 (carrier oil, 98% saturated hydrocarbons, 2% unidentified aromatics); NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Once after 24 hours; Samples processed after 24 hr equilibration, both soil and water phases analyzed.; Not reported
pH, Test Temperature, Buffer, and Test Details	7.90; 20±2°C; Not reported; 150 mL glass hypo-vials with 50 g soil-phase, and 136 mL water-phase, spiked with 2870 - 8610 ug test substance sealed with Teflon lined rubber septa and aluminum ring. No headspace was left.
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 15% clay; 0.5% organic carbon; 10.1 meq/100g
Bulk Density and Matrix Details	Not reported; Kidman Soil, collected near Kaysville, Utah, 24% moisture at saturation
Media, Recovery, and Statistics	Water; Not reported; Partition isotherms were linear, R ² > 0.8 and slope significantly > 0, at alpha = 0.05
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Equilibrated for 24 hr on rotary mixer at 30 rpm; Not Applicable
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not reported; Not reported; Not reported; Not reported
Partition Coefficient Type and Partition Coefficient Results	log Kd: Water/soil partition coefficient (95% confidence interval); Mean measured log Kd: -0.06 (-0.18 to 0.04)
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Kd = Concentration of compound in soil ug/g divided by Concentration of compound in water ug/mL
Mass Balance	> 90% of test substance mass recovered

EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High
	Metric 2:	Test Substance Purity	Medium
Domain 2: Test Design	Metric 3:	Study Controls	Medium
	Metric 4:	Test Substance Stability	Medium
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High

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Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	661088			
		EVALUATION		
Domain		Metric	Rating	Comments
	Metric 6:	Testing Conditions	High	Appropriate test conditions, including equilibration time and soil characteristics, were reported.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	High	Equilibrium was established and the system type and design were capable of maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcomes assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	Study reported the use of sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability between measurements was addressed with statistical techniques.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Analytical methods used were suitable for detection and quantification of the target chemical and were adequately sensitive; the limits detection were reported, but extraction efficiency was not. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	The statistical methods and partition coefficient calculations were described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable based on the method but were not compared to previous studies.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination

High

* Related References: Primary reference is cited in HSDB; however, the Koc values in the HSDB profile appear to be reported incorrectly

Study Citation:	Kommalapati, R. R., Valsaraj, K. T., Constant, W. D. (2002). Soil-water partitioning and desorption hysteresis of volatile organic compounds from a Louisiana Superfund site soil. Environmental Monitoring and Assessment 73(3):275-290.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	659072

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: ASTM Standard Method D 5285-92
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	No; Aldrich Chemical Company (Milwaukee, WI); NR; >98%
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Not reported; 3
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; Adsorption from a Multicomponent System
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; clayey soil: 22.2% sand, 49.4% clay, 28.4% silt, 0.25%OC; Not reported
Bulk Density and Matrix Details	Not reported; clayey soil
Media, Recovery, and Statistics	Not reported; Not reported; Not reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Not reported; Not reported
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Not reported; Not reported; Not reported; 7.9E-5 (clayey soil)
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Not reported; Not reported
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Not reported
Mass Balance	Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	High	The test substance source and purity were reported.
Domain 2: Test Design	Metric 3:	Study Controls	Low	The study did not report crucial control groups; however, ASTM standard methods were employed.

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Study Citation:	Kommalapati, R. R., Valsaraj, K. T., Constant, W. D. (2002). Soil-water partitioning and desorption hysteresis of volatile organic compounds from a Louisiana Superfund site soil. Environmental Monitoring and Assessment 73(3):275-290.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	659072			
Domain	Metric	EVALUATION		Comments
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	Some details were cited to a previous study.
	Metric 7:	Testing Consistency	High	The test conditions were consistent.
	Metric 8:	System Type and Design	High	The system and design were appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Details regarding sampling methods were not fully reported; however standard analytical methods were cited.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The target chemical extraction efficiency, percent recovery, and mass balance were not reported; however, these omissions were not likely to have a substantial impact on study results
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical analysis reported and acceptable.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	Results were reasonable and consistent with properties of test substance.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination**High**

Study Citation:	Meng, F. Y., Liu, R., Kobayashi, T., Wan, M., Yu, S. L., Chen, L. J. (2012). Study on equilibrium adsorption of volatile chlorinated hydrocarbons on humid soils. Huanjing Kexue / Chinese Journal of Environmental Science 33(4):1361-1368.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	2129099			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	Not Reported; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	no; experimental; other: dynamic adsorption experiments			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR Notes: NR			
Sampling Frequency, Sampling Details, and Number of Replicates	Not Reported; Not Reported; Not Reported			
pH, Test Temperature, Buffer, and Test Details	pH 4.71-8.18; Not Reported; Not Reported; 8 soils tested			
Matrix, Clay Silts and Organic Carbon, and CEC	other; Not Reported; 10.0-31.0 cmol(+)/kg			
Bulk Density and Matrix Details	Not Reported; Not Reported			
Media, Recovery, and Statistics	Not Reported; Not Reported; Not Reported			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Not Reported; Not Reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not Reported; Not Reported; Not Reported; Freundlich equation coefficients Kswg ranged from 0.0477-0.8444; 1/n ranged from 0.3916-0.7913			
Partition Coefficient Type and Partition Coefficient Results	Soil-gas adsorption equilibrium coefficients; 7.114E-4; 8.650E-4; 1.949E-3; 2.252E-3; 2.495E-3; 3.377E-3; 4.250E-3; and 4.608E-3			
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported			
Mass Balance	Not Reported			
EVALUATION				
Domain	Metric	Rating		Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	Low	Unclear; information is in foreign language.
Domain 2: Test Design	Metric 3:	Study Controls	Low	Unclear; information is in foreign language.
	Metric 4:	Test Substance Stability	Low	Unclear; information is in foreign language.
Domain 3: Test Conditions				
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Study Citation:	Meng, F. Y., Liu, R., Kobayashi, T., Wan, M., Yu, S. L., Chen, L. J. (2012). Study on equilibrium adsorption of volatile chlorinated hydrocarbons on humid soils. Huanjing Kexue / Chinese Journal of Environmental Science 33(4):1361-1368.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	2129099			
Domain		Metric	EVALUATION Rating	Comments
	Metric 5:	Test Method Suitability	Low	Unclear; information is in foreign language.
	Metric 6:	Testing Conditions	Low	Unclear; information is in foreign language.
	Metric 7:	Testing Consistency	Low	Unclear; information is in foreign language.
	Metric 8:	System Type and Design	Low	Unclear; information is in foreign language.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	This metric is not applicable to this type of study.
	Metric 10:	Sampling Methods	N/A	This metric is not applicable to this type of study.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Low	Unclear; information is in foreign language.
	Metric 12:	Test Substance Purity	Low	Unclear; information is in foreign language.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Unclear; information is in foreign language.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Unclear; information is in foreign language.
	Metric 16:	Statistical Methods and Kinetic Calculations	Low	Unclear; information is in foreign language.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Foreign language; Due to limited information, evaluation of the reasonableness of the study results was not possible (i.e., reference substance(s) not used or physical-chemical properties unknown and unable to be estimated).
	Metric 18:	QSAR Models	Uninformative	The metric is not applicable to this study type.

Overall Quality Determination

Uninformative

Study Citation:	Mokrauer, J. E., Kosson, D. S. (1989). Electrophysical sorption of two carbon halogenated solvents onto soil. Environmental Progress 8(4):279-283.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5440801			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	None; Experimental; other: non-guideline sorption to soil			
Solvent, Reactivity, Storage, Stability	Methanol; NR; NR; NR			
Radiolabel, Source, State, Purity	No; NR; NR; NR Notes: NR			
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; 6 extractions/sample in pentane at 4C; each concentration run in duplicate with controls			
pH, Test Temperature, Buffer, and Test Details	Not reported; 25 C; Not reported; Test concentrations of 2, 5, 10, 50, 100, and 200 ppm (test solutions had less than 0.1% methanol) were shaken for 24h, centrifuged 4h, extracted in pentane, 6 extractions/ sample.			
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; soil composition on a mass basis: 72% sand, 16% silt, 12% clay, 1.8% organic matter; Not reported			
Bulk Density and Matrix Details	Not reported; bottles were filled with sifted, air-dried soil and water and then sealed with Teflon/silicone septa			
Media, Recovery, and Statistics	water; recovery in pentane phase was greater than 97%; r-squared = 0.9973			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; equilibrium time was calculated in previous study; Not reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not reported; Not reported; Not reported; Not reported			
Partition Coefficient Type and Partition Coefficient Results	isotherm based on linear partitioning model; 0.5616			
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Not Reported			
Mass Balance	Not reported			
EVALUATION				
Domain	Metric	Rating		Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified clearly
	Metric 2:	Test Substance Purity	Medium	Source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Controls were included; result details were not reported.
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.

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Study Citation:	Mokrauer, J. E., Kosson, D. S. (1989). Electrophysical sorption of two carbon halogenated solvents onto soil. Environmental Progress 8(4):279-283.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5440801			
Domain		Metric	EVALUATION Rating	Comments
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable.
	Metric 6:	Testing Conditions	Medium	pH was not reported
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples.
	Metric 8:	System Type and Design	High	The system type and design were appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	This metric is not applicable to this type of study.
	Metric 10:	Sampling Methods	N/A	This metric is not applicable to this type of study.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Limited detail regarding sampling methods.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Confounding variable such as other loss processes (biotic/abiotic) were not discussed.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	This metric is not applicable to this type of study.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Data reporting was appropriate; however, control groups were not discussed.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	95%CI were reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	This metric is not applicable to this type of study.
Overall Quality Determination			High	

Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	7681897

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	Not Reported; Not Reported; Not Reported
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Sampling Frequency, Sampling Details, and Number of Replicates	Not Reported; Not Reported; Not Reported
pH, Test Temperature, Buffer, and Test Details	Not Reported; Not Reported; Not Reported; Not Reported
Matrix, Clay Silts and Organic Carbon, and CEC	sandy loam; not reported; silty clay soil and sandy loam soil; Not Reported
Bulk Density and Matrix Details	Not Reported; Not Reported
Media, Recovery, and Statistics	Not Reported; Not Reported; Not Reported
Transformation Products, Equilibrium	Not Reported; Not Reported; Not Reported
Adsorption Details, and Equilibrium Desorption Details	
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Not Reported; Koc in silty clay soil = 83-111; Koc in sandy loam soil = 174-209; Not Reported; Not Reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Not Reported; Not Reported
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported
Mass Balance	Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.

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Study Citation:	NCBI, (2020). PubChem Compound Summary for CID 6574, 1,1,2-Trichloroethane.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	7681897			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	Trusted secondary source with primary citation.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.

Overall Quality Determination

High

* Related References: Primary source cited: Gan DR, Dupont RR; Hazard Waste Hazard Materials 6: 363-83 (1989).[Note: Duplicate HSDB HERO ID 5926162 which most pChem data is entered under.]

Study Citation:	Poole, S. K., Poole, C. F. (1996). Model for the sorption of organic compounds by soil from water. Analytical Communications 33(12):417-419.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	1486725			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	Not Reported; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	none; not specified; other: Non-guideline: model estimation for sorption to soil from water			
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported			
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported			
Sampling Frequency, Sampling Details, and Number of Replicates	NA; Not Reported; Not Reported			
pH, Test Temperature, Buffer, and Test Details	Not Reported; Not Reported; Not Reported; solvation parameter model; Koc: soil-water sorption coefficient (organic carbon basis)			
Matrix, Clay Silts and Organic Carbon, and CEC	other; Not Reported; Not Reported			
Bulk Density and Matrix Details	Not Reported; Not Reported			
Media, Recovery, and Statistics	Not Reported; Not Reported; Not Reported			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Not Reported; Not Reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not Reported; Not Reported; Not Reported; Not Reported			
Partition Coefficient Type and Partition Coefficient Results	log Koc; 1.89			
Partition Coefficient Phase and Partition Coefficient Results	soil-water; value taken from the literature to define a model for the estimation of log Koc			
Mass Balance	Not Reported			
EVALUATION				
Domain	Metric	Rating		Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable.
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Study Citation:	Poole, S. K., Poole, C. F. (1996). Model for the sorption of organic compounds by soil from water. Analytical Communications 33(12):417-419.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	1486725			
		EVALUATION		
Domain		Metric	Rating	Comments
	Metric 6:	Testing Conditions	N/A	The metric is not applicable.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable.
	Metric 8:	System Type and Design	N/A	The metric is not applicable.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Calculations were described.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Model results not reported for the target chemical; endpoint data is from cited source used to construct the model.
	Metric 18:	QSAR Models	Medium	Overall correlation coefficient = 0.982; Standard Error = 0.17
Overall Quality Determination			Low	

* Related References: Source for value not specified; literature value referenced to 5 possible citations.

Study Citation:	Poole, S. K., Poole, C. F. (1999). Chromatographic models for the sorption of neutral organic compounds by soil from water and air. Journal of Chromatography A 845(1-2):381-400.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	645740

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; Not Reported
Confidentiality, Type, Guideline	None; Calculation; other: model for sorption and partitioning
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	None; NR; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Not applicable; Not applicable; Not applicable
pH, Test Temperature, Buffer, and Test Details	Not applicable; Not applicable; Not applicable; 138 compounds were used in soil-water model; 69 compounds were used in soil-air model; using up to 6 descriptors; characteristic volume (0.758 cm ³ /mol/100), excess molar refraction (0.499 cm ³ /10), solute's dipolarity/polarizability (0.68), solute's hydrogen-bond acidity (0.13), solute's hydrogen-bond basicity (0.08), distribution constant between gas and n-hexadecane @ 298 K (3.290)
Matrix, Clay Silts and Organic Carbon, and CEC	other; Not applicable; Not applicable
Bulk Density and Matrix Details	Not applicable; Not applicable
Media, Recovery, and Statistics	Not applicable; Not applicable; Summary of statistics for 138 compounds for soil-water: p=0.940, SE=0.391, F=202; for 69 compounds soil-air: p=0.991, SE=0.238, F=667
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not applicable; Not applicable; Not applicable
Reference Substance, Reference Substance Results, and Percent Adsorption	Not applicable; Not applicable; Not applicable
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not applicable; Not applicable; Not applicable; Not applicable
Partition Coefficient Type and Partition Coefficient Results	Log K _{oc} ; Log K _{ow} ; Log K _{oca} ; 1.87; 1.89; 3.33
Partition Coefficient Phase and Partition Coefficient Results	soil-water (K _{oc}); octanol-water (K _{ow}); soil-air (K _{oca}); Not Reported
Mass Balance	Not applicable

EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this study type.

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Study Citation:	Poole, S. K., Poole, C. F. (1999). Chromatographic models for the sorption of neutral organic compounds by soil from water and air. Journal of Chromatography A 845(1-2):381-400.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	645740			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this study type.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this study type.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this study type.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this study type.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		High		

Study Citation:	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.		
OECD Harmonized Template:	Adsorption and Desorption		
HERO ID:	5159900		
EXTRACTION			
Parameter	Data		
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane		
Confidentiality, Type, Guideline	None; Experimental; other		
Solvent, Reactivity, Storage, Stability	Not reported; Not reported; Not reported; Not reported		
Radiolabel, Source, State, Purity	Not reported; Not reported; Not reported; Not reported Notes: Not reported		
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Not reported; Not reported		
pH, Test Temperature, Buffer, and Test Details	Not reported; Room temperature; Not reported; 3 different soil types were tested: sandy, clayey, and silty clayey		
Matrix, Clay Silts and Organic Carbon, and CEC	other; Not reported; Not reported		
Bulk Density and Matrix Details	Not reported; Not reported		
Media, Recovery, and Statistics	Not reported; Not reported; Not reported		
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Not reported; Not reported		
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported		
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not reported; Not Reported; Not Reported; Not reported		
Partition Coefficient Type and Partition Coefficient Results	Log Koc; sandy soil: 2.07, clayey soil: 2.28, silty clayey soil: 1.96		
Partition Coefficient Phase and Partition Coefficient Results	Not reported; Soil/sediment water sorption coefficient (Log Koc)		
Mass Balance	Not reported		
EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1:	Test Substance Identity	High
	Metric 2:	Test Substance Purity	Medium
			The test substance was identified by common name.
			The test substance purity was not reported by the secondary source; however, the omission is unlikely to have a substantial impact on the study results.
Domain 2: Test Design			
	Metric 3:	Study Controls	Medium
			Study controls were not reported in the secondary source; however, the omissions are unlikely to have a substantial impact on the study results.
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Study Citation:	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5159900			
Domain	Metric	EVALUATION		Comments
		Rating		
	Metric 4:	Test Substance Stability	Medium	Details regarding the test substance preparation, homogeneity, and storage conditions were not reported by the secondary source; however, the omissions are unlikely to have a substantial impact on the study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Low	Details regarding the test method were not reported in the secondary report.
	Metric 6:	Testing Conditions	Medium	Some details regarding the testing conditions were not reported in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 7:	Testing Consistency	Medium	Some details regarding the testing conditions across study groups were not reported in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 8:	System Type and Design	Low	The system type was not clearly reported in the secondary report and the omissions may have an impact on the study results.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Low	The outcome assessment was not reported in the secondary report which may have an impact on the study results.
	Metric 12:	Test Substance Purity	Medium	The sampling methods were not described in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty in the measurements were not reported in the secondary report.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Details regarding the sampling type were not reported in the secondary report.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Statistical methods were not reported in the secondary report.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	A reference substance was not reported; however, the study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

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Study Citation:	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	5159900

Domain	Metric	EVALUATION Rating	Comments
Overall Quality Determination		Medium	

* Related References: Kommalapati, R.R., Valsaraj, K.T. and Constant, W.D. 2002. Soil-Water partitioning and desorption of hysteresis of volatile organic compounds from a Louisiana Superfund site soil. Environ. Monit. Assess. 73, 275-290.Valsaraj, K.T., Kommalapati, R.R., Robertson, E.D. and Constant, W.D. 1999. Partitionconstants and adsorption/desorption hysteresis for volatile organic compounds on soilfrom a Louisiana Superfund site. Environ. Monit. Assess. 58, 225-241.

Study Citation:	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5159900			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	None; Experimental; other			
Solvent, Reactivity, Storage, Stability	Not reported; Not reported; Not reported; Not reported			
Radiolabel, Source, State, Purity	Not reported; Not reported; Not reported; Not reported Notes: Not reported			
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Not reported; Not reported			
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; Not reported			
Matrix, Clay Silts and Organic Carbon, and CEC	other; Not reported; Not reported			
Bulk Density and Matrix Details	Not reported; Not reported			
Media, Recovery, and Statistics	Not reported; Not reported; Not reported			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Not reported; Not reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not reported; Not reported; Not reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not reported; Not Reported; Not Reported; Not reported			
Partition Coefficient Type and Partition Coefficient Results	Log Koc; 1.75			
Partition Coefficient Phase and Partition Coefficient Results	Not reported; Soil/sediment water sorption coefficient (Log Koc)			
Mass Balance	Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by common name.
	Metric 2:	Test Substance Purity	Medium	The test substance purity was not reported by the secondary source; however, the omission is unlikely to have a substantial impact on the study results.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Study controls were not reported in the secondary source; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 4:	Test Substance Stability	Medium	Details regarding the test substance preparation, homogeneity, and storage conditions were not reported by the secondary source; however, the omissions are unlikely to have a substantial impact on the study results.
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Study Citation:	RIVM, (2007). Ecotoxicologically based environmental risk limits for several volatile aliphatic hydrocarbons. :217.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	5159900			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Low	Details regarding the test method were not reported in the secondary report.
	Metric 6:	Testing Conditions	Medium	Some details regarding the testing conditions were not reported in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 7:	Testing Consistency	Medium	Some details regarding the testing conditions across study groups were not reported in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
	Metric 8:	System Type and Design	Low	The system type was not clearly reported in the secondary report and the omissions may have an impact on the study results.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Low	The outcome assessment was not reported in the secondary report which may have an impact on the study results.
	Metric 12:	Test Substance Purity	Medium	The sampling methods were not described in the secondary report; however, the omissions are unlikely to have a substantial impact on the study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Sources of variability and uncertainty in the measurements were not reported in the secondary report.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Details regarding the sampling type were not reported in the secondary report.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Statistical methods were not reported in the secondary report.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	A reference substance was not reported; however, the study results are reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.

Overall Quality Determination**Medium**

* Related References: Tao, S., Piao, H., Dawson, R., Lu, X. and Hu, H. 1999. Estimation of organic carbon normalized sorption coefficient (Koc) for soils using the fragment constant method. Environ. Sci. Technol. 33, 2719-2725.

Study Citation:	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	6406226

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; Not Reported
Confidentiality, Type, Guideline	Not Reported; estimation; Not Reported
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported
Sampling Frequency, Sampling Details, and Number of Replicates	Not Reported; Not Reported; Not Reported
pH, Test Temperature, Buffer, and Test Details	Not Reported; Not Reported; Not Reported; Not Reported
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; Not Reported; Not Reported
Bulk Density and Matrix Details	Not Reported; Not Reported
Media, Recovery, and Statistics	Not Reported; Not Reported; Not Reported
Transformation Products, Equilibrium	Not Reported; Not Reported; Not Reported
Adsorption Details, and Equilibrium Desorption Details	
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Not Reported; Koc = 57; estimated using method in cited source.; Not Reported; Not Reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Not Reported; Not Reported
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported
Mass Balance	Not Reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.

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Study Citation:		U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.		
OECD Harmonized Template:		Adsorption and Desorption		
HERO ID:		6406226		
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited details in secondary source; details regarding calculation based on citation not reported.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.
Overall Quality Determination		Low		

* Related References: Source cited HERO ID 18016; specific results are not included in this source for this chemical.

Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	4213876

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; other: Batch equilibrium following "standard EPA procedures"
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; PPG Lake Charles Site; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Centrifuged at 400 rpm, aqueous phase analyzed; Not reported
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; 50 to 100 g soil mixed with 60 to 250 mL, leaving no headspace
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 0.206% organic carbon; Not reported
Bulk Density and Matrix Details	Not reported; PPG Lake Charles Site; Boring 438 Lower Sand 33 ft
Media, Recovery, and Statistics	Uncontaminated aquifer water; Not Reported; Not Reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Mixed in tumbler at 20 rpm for 24 hr; Not Reported
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	Not Reported; Not Reported; Not Reported; Not Reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Kp; 1.82 kg soil / L water
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported
Mass Balance	Not reported

EVALUATION				
Domain		Metric	Rating	Comments
Domain 1: Test Substance		Metric 1: Test Substance Identity	High	The chemical of interest was identified by name.
		Metric 2: Test Substance Purity	High	The sample source was reported.
Domain 2: Test Design		Metric 3: Study Controls	Medium	Analytical blanks or field blanks were not explicitly included.
		Metric 4: Test Substance Stability	Medium	Sample storage or processing methods were not reported.
Domain 3: Test Conditions				

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Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
Domain		EVALUATION		Comments
		Metric	Rating	
	Metric 5:	Test Method Suitability	High	The test method was appropriate for the test substance.
	Metric 6:	Testing Conditions	Medium	Many soil characteristics were not reported, temperature and pH were not reported.
	Metric 7:	Testing Consistency	High	Test set up was consistent.
	Metric 8:	System Type and Design	Medium	Equilibrium confirmation was not reported, test substance loss was not reported.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology was appropriate for determining partition coefficients.
	Metric 12:	Test Substance Purity	Medium	Sampling methods were appropriate but sample extraction methods were not reported.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	The study was overall low in methodology detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was reported in low detail. Limits of detection and extraction efficiency were not reported. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not conducted.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	The results were reasonable based on the method but were lacking in many details for methodology and soil characteristics.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Medium	

Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; other: Batch equilibrium following "standard EPA procedures"			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; PPG Lake Charles Site; NR; NR			
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Centrifuged at 400 rpm, aqueous phase analyzed; Not reported			
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; 50 to 100 g soil mixed with 60 to 250 mL, leaving no headspace			
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 0.5% organic carbon; Not reported			
Bulk Density and Matrix Details	Not reported; PPG Lake Charles Site; Boring 438 Fill Material			
Media, Recovery, and Statistics	Uncontaminated aquifer water; Not Reported; Not Reported			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Mixed in tumbler at 20 rpm for 24 hr; Not Reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not Reported; Not Reported; Not Reported; Not Reported			
Partition Coefficient Type and Partition Coefficient Results	Kp; 1.04 kg soil / L water			
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported			
Mass Balance	Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The chemical of interest was identified by name.
	Metric 2:	Test Substance Purity	High	The sample source was reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	Medium	Analytical blanks or field blanks were not explicitly included.
	Metric 4:	Test Substance Stability	Medium	Sample storage or processing methods were not reported.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was appropriate for the test substance.
	Metric 6:	Testing Conditions	Medium	Many soil characteristics were not reported, temperature and pH were not reported.
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Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
Domain		Metric	EVALUATION Rating	Comments
	Metric 7:	Testing Consistency	High	Test set up was consistent.
	Metric 8:	System Type and Design	Medium	Equilibrium confirmation was not reported, test substance loss was not reported.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology was appropriate for determining partition coefficients.
	Metric 12:	Test Substance Purity	Medium	Sampling methods were appropriate but sample extraction methods were not reported.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	The study was overall low in methodology detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was reported in low detail. Limits of detection and extraction efficiency were not reported. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not conducted.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	The results were reasonable based on the method but were lacking in many details for methodology and soil characteristics.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Medium	

Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; other: Batch equilibrium following "standard EPA procedures"			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; PPG Lake Charles Site; NR; NR			
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Centrifuged at 400 rpm, aqueous phase analyzed; Not reported			
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; 50 to 100 g soil mixed with 60 to 250 mL, leaving no headspace			
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 0.169% organic carbon; Not reported			
Bulk Density and Matrix Details	Not reported; PPG Lake Charles Site; Boring 438 Organic Clay 19 ft			
Media, Recovery, and Statistics	Uncontaminated aquifer water; Not Reported; Not Reported			
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Mixed in tumbler at 20 rpm for 24 hr; Not Reported			
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported			
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not Reported; Not Reported; Not Reported; Not Reported			
Partition Coefficient Type and Partition Coefficient Results	Kp; 3.79 kg soil / L water			
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported			
Mass Balance	Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The chemical of interest was identified by name.
	Metric 2:	Test Substance Purity	High	The sample source was reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Analytical blanks or field blanks were not explicitly included.
	Metric 4:	Test Substance Stability	Medium	Sample storage or processing methods were not reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was appropriate for the test substance.
	Metric 6:	Testing Conditions	Medium	Many soil characteristics were not reported, temperature and pH were not reported.
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Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
Domain		Metric	EVALUATION Rating	Comments
	Metric 7:	Testing Consistency	High	Test set up was consistent.
	Metric 8:	System Type and Design	Medium	Equilibrium confirmation was not reported, test substance loss was not reported.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology was appropriate for determining partition coefficients.
	Metric 12:	Test Substance Purity	Medium	Sampling methods were appropriate but sample extraction methods were not reported.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	The study was overall low in methodology detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was reported in low detail. Limits of detection and extraction efficiency were not reported. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not conducted.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	The results were reasonable based on the method but were lacking in many details for methodology and soil characteristics.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Medium	

Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	4213876

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; other: Batch equilibrium following "standard EPA procedures"
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; PPG Lake Charles Site; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Centrifuged at 400 rpm, aqueous phase analyzed; Not reported
pH, Test Temperature, Buffer, and Test Details	Not reported; Not reported; Not reported; 50 to 100 g soil mixed with 60 to 250 mL, leaving no headspace
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 0.136% organic carbon; Not reported
Bulk Density and Matrix Details	Not reported; PPG Lake Charles Site; Borings 558, 564, and 570 10 Ft zone
Media, Recovery, and Statistics	Uncontaminated aquifer water; Not Reported; Not Reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not Reported; Mixed in tumbler at 20 rpm for 24 hr; Not Reported
Reference Substance, Reference Substance Results, and Percent Adsorption	Not Reported; Not Reported; Not Reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Not Reported; Not Reported; Not Reported; Not Reported
Partition Coefficient Type and Partition Coefficient Results	Kp; 0.584 kg soil / L water
Partition Coefficient Phase and Partition Coefficient Results	Not Reported; Not Reported
Mass Balance	Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The chemical of interest was identified by name.
	Metric 2:	Test Substance Purity	High	The sample source was reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Analytical blanks or field blanks were not explicitly included.
	Metric 4:	Test Substance Stability	Medium	Sample storage or processing methods were not reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	The test method was appropriate for the test substance.
	Metric 6:	Testing Conditions	Medium	Many soil characteristics were not reported, temperature and pH were not reported.

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Study Citation:	UT Austin, (1987). Analysis and interpretation of batch equilibrium and column studies of the partitioning of chlorinated hydrocarbons to soil materials from the PPG Lake Charles site.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	4213876			
Domain		Metric	EVALUATION Rating	Comments
	Metric 7:	Testing Consistency	High	Test set up was consistent.
	Metric 8:	System Type and Design	Medium	Equilibrium confirmation was not reported, test substance loss was not reported.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology was appropriate for determining partition coefficients.
	Metric 12:	Test Substance Purity	Medium	Sampling methods were appropriate but sample extraction methods were not reported.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	The study was overall low in methodology detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was reported in low detail. Limits of detection and extraction efficiency were not reported. Raw data was not reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not conducted.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	The results were reasonable based on the method but were lacking in many details for methodology and soil characteristics.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			Medium	

Study Citation:	Valsaraj, K. T., Kommalapati, R. R., Robertson, E. D., Constant, W. D. (1999). Partition constants and adsorption-desorption hysteresis for volatile organic compounds on soil from a Louisiana Superfund site. Environmental Monitoring and Assessment 58(2):225-241.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	661142

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; other: ASTM Standard Method E 1195-87
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Aldrich Chemical Company (Milwaukee, WI); NR; >98% Notes: TCA
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Diluted if necessary; Not reported
pH, Test Temperature, Buffer, and Test Details	PS = 7.4; PC = 4.3; RSC = 5.8; Not reported; Not reported; Pleistocene Sand (PS), Pleistocene Clay (PC), Recent Silty Clay (RSC); glass bottles shaken for 48 hrs and centrifuged at 8000 rpm; desorption period 24-48 hrs
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 77.5% sand, 9.4% silt, 13.1% clay, 0.11% OC; sum of bases: 4.4 meq/100
Bulk Density and Matrix Details	surface area: 7 m ² /g; Uncontaminated soil from Baton Rouge Bayou area in Louisiana
Media, Recovery, and Statistics	Kd: Glass centrifuge tube: 5 g of soil and 40 mL of water containing either 1, 10 or 60 mg/L of test substance; Koc: water spiked with 2.5 mg/L test substance; Not reported; Not reported
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	Not reported; Not reported; Not reported
Reference Substance, Reference Substance Results, and Percent Adsorption	Controls run with only test substance and no soils; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption Desorption Type	Kd (L/kg); Kd = 0.13 (PS), 0.48 (PC), 1.03 (RSC); Extreme care was taken in order to minimize loss due to volatilization; Not reported
Partition Coefficient Type and Partition Coefficient Results	log Koc (L/kg); 1.92+/-0.02
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Derived from slope of Kd/Foc plot, based on Kd values obtained for each soil type and each soil foc (fraction of organic carbon)
Mass Balance	Not reported

EVALUATION			
Domain	Metric	Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High
	Metric 2:	Test Substance Purity	High
Domain 2: Test Design	The test substance was identified definitively.		
	Metric 3:	Study Controls	Medium
Test results were not reported; however, the lack of reporting not likely to have a substantial impact on the interpretation of the study results.			

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Study Citation:	Valsaraj, K. T., Kommalapati, R. R., Robertson, E. D., Constant, W. D. (1999). Partition constants and adsorption-desorption hysteresis for volatile organic compounds on soil from a Louisiana Superfund site. Environmental Monitoring and Assessment 58(2):225-241.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	661142			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	There were omissions in testing conditions; however, sufficient data were reported to determine that the omissions were not likely to have had a substantial impact on the study results.
	Metric 7:	Testing Consistency	Medium	Testing details were omitted and had limited detail; however, the lack of data is not likely to hinder the interpretation of the results.
	Metric 8:	System Type and Design	High	Standard testing method; the system type and design were appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Limited detail; however, the lack of reporting not likely to have a substantial impact on study results
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Overall acceptable; guideline study.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Statistical analysis was not reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

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Study Citation:	Valsaraj, K. T., Kommalapati, R. R., Robertson, E. D., Constant, W. D. (1999). Partition constants and adsorption-desorption hysteresis for volatile organic compounds on soil from a Louisiana Superfund site. Environmental Monitoring and Assessment 58(2):225-241.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	661142

		EVALUATION	
Domain	Metric	Rating	Comments
Overall Quality Determination		High	

Study Citation:	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.
OECD Harmonized Template:	Adsorption and Desorption
HERO ID:	3797830

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; other: Not reported; sorption determination as part of fate and transport in sandy soil study
Solvent, Reactivity, Storage, Stability	Water; NR; Feed solution kept on ice, in a Teflon gas-sampling bag with a Teflon septum valve; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Sampling Frequency, Sampling Details, and Number of Replicates	Not reported; Aqueous effluent and trapped volatiles analyzed; sorption determined by mass balance calculations; 3
pH, Test Temperature, Buffer, and Test Details	6.4 (soil), 7.2 (water); 20±1°C; None; 1.00 and 0.16 mg/L test substance applied to borosilicate columns packed with the soil for 45 d, columns received Columns received 14 cm water per day, effluent collected for analysis
Matrix, Clay Silts and Organic Carbon, and CEC	Not Reported; 2.1% clay, 5.9% silt, 92% sand, 0.087% organic carbon; 3.5
Bulk Density and Matrix Details	1.65 g/cm ³ ; Sandy soil from Ada, Oklahoma
Media, Recovery, and Statistics	Spring water; Extraction efficiency: 49-98% (volatiles), 58-74% (aqueous); Acceptable agreement with log water solubility
Transformation Products, Equilibrium Adsorption Details, and Equilibrium Desorption Details	NA; Steady state reached at 25 d; NA
Reference Substance, Reference Substance Results, and Percent Adsorption	Column receiving spring water alone; Not reported; Not reported
Adsorption Coefficient Type, Adsorption Coefficient Results, Adsorption Coefficient Results Comments, and Adsorption	log K _{oc} ; Approx. 1.9; Estimated from graph; reported for high and low concentrations; Not Reported
Desorption Type	
Partition Coefficient Type and Partition Coefficient Results	Not Reported; Not Reported
Partition Coefficient Phase and Partition Coefficient Results	soil-water; Not Reported
Mass Balance	Volatilized (high, low starting concentration): 27±16%, 47±13% Column effluent (high, low concentration): 65±12%, 61±5% Degraded or not accounted for (high, low concentration): 8±10%, -8±7%

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	High	A negative control was included, the results of which were not reported but assumed to be within an acceptable range.

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Study Citation:	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.			
OECD Harmonized Template:	Adsorption and Desorption			
HERO ID:	3797830			
Domain		Metric	EVALUATION Rating	Comments
	Metric 4:	Test Substance Stability	High	Test substance preparation and storage was reported and appropriate.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Soil and water characteristics were reported, temperature was reported.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across study groups.
	Metric 8:	System Type and Design	High	The system was capable of maintaining test substance concentrations and equilibrium was established.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the outcomes of interest.
	Metric 12:	Test Substance Purity	High	Sampling methods were appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Low	Concentrations in soil were not measured and soil was not sterilized; based on the method as reported, there is not a way to distinguish between biodegradation and sorption
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was appropriate, extraction efficiencies were reported, mass balance was accounted for however sorption and biodegradation loss was not differentiated. Partitioning was normalized to organic carbon content.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	Kinetic calculations not reported.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The results agreed with known sorption relationships to water solubility, however based on the method sorption loss was not differentiated from biodegradation loss and this was not addressed in data evaluation.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination

High

Study Citation:	Beltran, F. J., Gonzalez, M., Rivas, J., Acedo, B. (1999). Aqueous degradation of VOCs in the ozone combined with hydrogen peroxide or UV radiation processes - 1. Experimental results. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering 34(3):649-671.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	3545568			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	not reported; TCA			
Confidentiality, Type, Guideline	no; experimental; experimental			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR Notes: NR			
Test Method Details, Test Condition Details, and Test Consistency Details	Volatilization in surface waters; initial TCA concentration = 100 µg/L; gas flow rates = 2.5 (test duration 20 minutes) and 20 L/h (test duration 25 minutes); water type: surface (from Pena del Aguila); Not Reported			
System Type Design	800 ml reactor with central quartz tube (for ozonation/UV irradiation portion of test; not applicable in for the volatilization study)			
Sampling Frequency and Sampling Details	4 and 8 sampling events occurred during experiments conducted at a gas flow rate of 20 and 2.5 L/h; not reported			
Test Temperature	20°C, pH 7			
Results Details	Disappearance of test material over time (reported as C/C0): initial 1.0, t5min = 0.65, t10min = 0.4, t15min = 0.27, t20min = 0.18, t25min = 0.11 (at gas flow rate: 20 L/h); Disappearance of test material over time (reported as C/C0): initial 1.0, t3min = 0.98, t7.5min = 0.95, t12.5min = 0.92, t20min = 0.87 (at gas flow rate: 2.5 L/h); volatilization represented up to ca. 85% of elimination			
Analytical Method and Analytical Details	GC-MS with ECD; not reported			
Transformation Products, Statistics, and Kinetics	not reported; not reported; not reported			
Reference Substance and Reference Substance Results	not reported; not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	Uninformative	Test substance was generically identified as TCA which could be either 1,1,1-TCA or 1,1,2-TCA.
	Metric 2:	Test Substance Purity	Medium	The test substance purity was not reported; however, the this was not likely to have a substantial impact on the study results.
Domain 2: Test Design				
	Metric 3:	Study Controls	N/A	The metric is not applicable to this type of study.
	Metric 4:	Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	Medium	The test method was suitable.
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Study Citation:	Beltran, F. J., Gonzalez, M., Rivas, J., Acedo, B. (1999). Aqueous degradation of VOCs in the ozone combined with hydrogen peroxide or UV radiation processes - 1. Experimental results. Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering 34(3):649-671.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	3545568			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 6:	Testing Conditions	High	Test conditions were reported.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this type of study.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this type of study.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this type of study.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this type of study.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Limited detail regarding sampling methodology.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this type of study.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this type of study.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Analytical details were omitted.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Calculations were clearly described.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this type of study.

Overall Quality Determination**Uninformative**

Study Citation:	Bhattacharya, S. K., Madura, R. L., Dobbs, R. A., Angara, R. V. R., Tabak, H. (1996). Fate of selected RCRA compounds in a pilot-scale activated sludge system. Water Environment Research 68(3):260-269.
OECD Harmonized Template:	Miscellaneous
HERO ID:	659813

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	Not Reported; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	Continuous feed of 0.25 mg/L for 10 weeks used to produce acclimated biomass, 3 week acclimation period; 7 week test period; flow rate = 190,760 L/day; Screened and degrittied wastewater from WWTP in Ohio.; Not reported
System Type Design	Pilot plant using primary clarification followed by conventional activated sludge treatment
Sampling Frequency and Sampling Details	Weekly over a 24 hr period for 7 events; Composite aqueous and sludge samples collected during a 24-hour period once every week for 7 weeks; composites of six air samples also collected during this 24-hour test period.
Test Temperature	Not reported
Results Details	Average (of 7 events) percent removal from primary treatments = 7.9% (std dev ± 6.6); Average percent removal from primary + secondary treatments = 70.8% (std dev ± 7.1); stripped/air emissions 37.0% (std dev ± 14.4); 5.0% (std dev ± 1.3) volatilization loss in primary sedimentation, 32.0% (std dev ± 11.8) stripped in aeration basin; Average estimate of biodegradation 31.7% (std dev ± 8.2). Percent biodegraded = %total removal - %sorbed - %stripped.
Analytical Method and Analytical Details	purge and trap GC/MS; Method 1624; TSS, VSS, and ammonia-N measured according to Standard Methods 209D, 209E, and 417B, respectively. COD measured using Hach kit.
Transformation Products, Statistics, and Kinetics	Not reported; Not reported; Not reported
Reference Substance and Reference Substance Results	Control pilot plant included; Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified clearly.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity of standards were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Some concurrent control group details were not included; however, the lack of data was not likely to have a substantial impact on study results.
	Metric 4:	Test Substance Stability	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 6:	Testing Conditions	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 7:	Testing Consistency	High	This metric met the criteria for high confidence as expected for this type of study.

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Study Citation:	Bhattacharya, S. K., Madura, R. L., Dobbs, R. A., Angara, R. V. R., Tabak, H. (1996). Fate of selected RCRA compounds in a pilot-scale activated sludge system. Water Environment Research 68(3):260-269.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	659813			
Domain		Metric	EVALUATION Rating	Comments
	Metric 8:	System Type and Design	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	This metric met the criteria for high confidence as expected for this type of study.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	No confounding variables were noted.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	This metric met the criteria for high confidence as expected for this type of study.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Statistical analysis reported and acceptable.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable for this type of study.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			High	

Study Citation:	Chao, H. P., Hsieh, L. C., Tran, H. N. (2018). Increase in volatilization of organic compounds using air sparging through addition in alcohol in a soil-water system. Journal of Hazardous Materials 344:942-949.
OECD Harmonized Template:	Miscellaneous
HERO ID:	4271904

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2 Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; Merck; NR; analytical grade or better, >98% purity
Test Method Details, Test Condition Details, and Test Consistency Details	Closed system with solution soil and an air compartment. The soil and test solution was separated by a baffle that air could pass through but not soil; batch study.; An aerator was used to purge the solution at for 3 hours.; experiment was performed in duplicate resulting data was averaged
System Type Design	Silty clay soil from Kuaikuan bottom soil, Changhua County, Taiwan, and Luzhu top soil Taoyuan City, Taiwan with 20 and 2.4% soil organic matter, 1.35 and 1.82% moisture, 39.4 and 42.8 nm average pore size, respectively
Sampling Frequency and Sampling Details	After 3 hours; Released compounds were adsorbed using a commercial adsorption tube
Test Temperature	25°C
Results Details	0.15 and 0.031 mg volatilized in Luzhu top soil and Kuaikuan bottom soil water system, respectively
Analytical Method and Analytical Details	GC-ECD; separated on a capillary column
Transformation Products, Statistics, and Kinetics	Not reported; Average values reported; Equilibrium of solutions reached
Reference Substance and Reference Substance Results	Not reported; Not reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1: Test Substance Identity	High	The test substance was identified definitively.
	Metric 2: Test Substance Purity	High	The source or purity of the test substance was reported.
Domain 2: Test Design			
	Metric 3: Study Controls	Medium	No concurrent control or blank group was reported; however, the lack of data was not likely to have a substantial impact on study results.
	Metric 4: Test Substance Stability	Medium	The test substance stability, homogeneity, preparation or storage conditions were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions			
	Metric 5: Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6: Testing Conditions	High	Testing conditions were monitored, reported, and appropriate for the method.
	Metric 7: Testing Consistency	High	Test conditions were consistent across samples or study groups.

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Study Citation:	Chao, H. P., Hsieh, L. C., Tran, H. N. (2018). Increase in volatilization of organic compounds using air sparging through addition in alcohol in a soil-water system. Journal of Hazardous Materials 344:942-949.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	4271904			
Domain		Metric	EVALUATION	
			Rating	Comments
	Metric 8:	System Type and Design	High	Equilibrium was established; the system type and design were capable of appropriately maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	Medium	Minor limitations were identified in sampling methods of the outcome(s) of interest were reported (i.e., the sampling intervals were such that a half-life or other rate could be determined and/or pathways could be defined); however, the limitations were not likely to have a substantial impact on results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of variability and uncertainty in the measurements, and statistical techniques and between study groups (if applicable) were considered and accounted for in data evaluation.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The target chemical and transformation product concentrations, extraction efficiency, percent recovery, or mass balance were not reported; however, these omissions were not likely to have a substantial impact on study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods or kinetic calculations were clearly described and address the dataset.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			High	

Study Citation:	Dow Chemical, (1983). Nonenymatic reductive dechlorination of chlorinated methanes and ethanes in aqueous solution with cover letter.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	1973123			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-Trichloroethane			
Confidentiality, Type, Guideline	None; Experimental; Experimental			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	No; Aldrich Chemical Co., Milwaukee, WI; NR; NR			
Test Method Details, Test Condition Details, and Test Consistency	Anaerobic systems were maintained with sulfide redox buffer to determine abiotic reductive dehalogenation rates for selected chemicals in water. Reductive dehalogenation in aqueous solution in the presence of an excess of reducing agent (hematin).; pH 7.0 (0.1M sulfide redox buffer prepared with aq Na2S in 0.1 M K2HPO4), 1 mg/L test conc, anaerobic conditions, duration 4 days; Run in duplicate. pH 7.0Eh -470 mV			
Details	Amber-colored serum bottles sealed with Teflon-faced silicone septum and aluminum crimp seal.			
System Type Design	day 0, 3, 7, 17, and 28; Degradation monitored by disappearance of test material and formation of 1,1-dichloroethane, chloroethane, and ethane.			
Sampling Frequency and Sampling Details	25C			
Test Temperature	No apparent reduction observed in this system. In redox buffer: concentration at day 0, 3, 7, 17, and 28 reported as 0.82, 0.76, 0.83, 0.80, and 0.83, respectively. In redox buffer + hematin: concentration at day 0, 3, 7, 17, and 28 reported as 0.77, 0.72, 0.77, 0.73, and 0.74, respectively. No evidence of microbial contamination was detected.			
Results Details	Gas chromatography with electron capture detector; Samples extracted with iso-octane			
Analytical Method and Analytical Details	NR; NR; NA			
Transformation Products, Statistics, and Kinetics	Non-reducing controls were prepared in deoxygenated phosphate buffer: K2HPO4 buffer (pH 7.0, Eh -180 mV); Concentration at day 0, 3, 7, 17, and 28 reported as 0.88, 0.83, 0.90, 0.82, and 0.89, respectively			
Reference Substance and Reference Substance Results				
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source was reported but purity was not reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	Medium	Controls were included and did not show reductive dehalogenation; controls for hydrolysis were not included.
	Metric 4:	Test Substance Stability	Medium	Test substance preparation and storage were not reported; however, these factors were not likely to influence the test substance or were not likely to have a substantial impact on study results.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Testing conditions were reported.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this study type.
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Study Citation:	Dow Chemical, (1983). Nonenymatic reductive dechlorination of chlorinated methanes and ethanes in aqueous solution with cover letter.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	1973123			
		EVALUATION		
Domain		Metric	Rating	Comments
	Metric 8:	System Type and Design	High	The system was appropriate.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	Sampling methods were reported and appropriate, samples were collected at an appropriate frequency.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Some variation in detection concentrations was reported, statistical analysis was not conducted to determine if this was significant.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	The analytical method was appropriate; extraction efficiency and limits of detection were not reported, but extraction was reported as acceptable. Raw data was reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this study type.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The results were reasonable based on the method and the non-reactivity was supported by previous studies.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			High	

Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.
OECD Harmonized Template:	Miscellaneous
HERO ID:	661088

EXTRACTION

Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	Penreco Oil 2257 (carrier oil, 98% saturated hydrocarbons, 2% unidentified aromatics); NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	Soil and air in glass vessel spiked with test substance and allowed to reach equilibrium before determination of test substance concentrations in each phase.; Skumpah Soil (Utah Playa), collected near Wendover, Utah, silty clay loam (pH 8.00, 26% moisture at saturation, 0.9% organic content, 34% clay content, CEC 12.4 meq/100 g), relative humidity 25, 56, and 75%; Equilibrated for 24 hr at 30 rpm
System Type Design	150 mL glass hypo-vials with 50 g soil, and 136 mL air, spiked with 2870 - 14,350 ug test substance sealed with Teflon lined rubber septa and aluminum ring.
Sampling Frequency and Sampling Details	Samples processed after 24 hr equilibration.; Solution matrix separated by centrifugation and test substance concentration measured in each phase.
Test Temperature	20±2°C
Results Details	Average log Kas: Air/soil partition coefficient (95% confidence interval): -2.94 (-3.01 to -2.89); -2.15 (-2.26 to -2.06); -2.12 (-2.24 to -2.03) at 25%, 56%, and 75% relative humidity, respectively
Analytical Method and Analytical Details	HP Model 5088A GC-FID, analytes separated on 15M DB-624 capillary column; peak display and integration provided by HP 5088A series GC terminal; detection limit approx. 7 ppm; Extractions based on USPEA SW-846 methods. Soil samples extracted into methanol and subsequent purge-and-trap (Method 5030).
Transformation Products, Statistics, and Kinetics	Not reported; Linear, Freundlich, and Langmuir models; no significant difference ($p < 0.05$) between the results of these e models. Linear model results reported, $R^2 > 0.80$ and slopes significantly greater than 0 ($p < 0.05$); Kas = [concentration in air]/[concentration in soil]
Reference Substance and Reference Substance Results	mass balance; Mass balance: > 90% recovery

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
Metric 1:	Test Substance Identity	High	Test substance was identified by name.
Metric 2:	Test Substance Purity	Medium	Test substance source and purity were not reported.
Domain 2: Test Design			
Metric 3:	Study Controls	Medium	A concurrent negative control was not explicitly included in the study.
Metric 4:	Test Substance Stability	Medium	Minimal details about test substance preparation and storage conditions were reported.
Domain 3: Test Conditions			
Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
Metric 6:	Testing Conditions	High	Temperature, relative humidity, and appropriate soil parameters were reported and were appropriate for the method.
Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.

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Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	661088			
Domain		Metric	EVALUATION	
			Rating	Comments
	Metric 8:	System Type and Design	High	Equilibrium was established and the system type and design were capable of maintaining substance concentrations.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcomes assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	Study reported the use of sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability between measurements was addressed with statistical techniques.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Analytical methods used were suitable for detection and quantification of the target chemical and were adequately sensitive.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	The statistical methods and partition coefficient calculations were described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			High	

Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	661088			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; Experimental			
Solvent, Reactivity, Storage, Stability	Penreco Oil 2257 (carrier oil, 98% saturated hydrocarbons, 2% unidentified aromatics); NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Test Method Details, Test Condition Details, and Test Consistency Details	Soil and air in glass vessel spiked with test substance and allowed to reach equilibrium before determination of test substance concentrations in each phase.; Kidman Soil, collected near Kaysville, Utah, sandy loam (pH 7.90, 24% moisture at saturation, 0.5% organic content, 15% clay content, CEC 10.1 meq/100 g), relative humidity 25, 56, and 75%; Equilibrated for 24 hr at 30 rpm			
System Type Design	150 mL glass hypo-vials with 50 g soil, and 136 mL air, spiked with 2870 - 14,350 ug test substance sealed with Teflon lined rubber septa and aluminum ring.			
Sampling Frequency and Sampling Details	Samples processed after 24 hr equilibration.; Solution matrix separated by centrifugation and test substance concentration measured in each phase.			
Test Temperature	20±2°C			
Results Details	Average log Kas: Air/soil partition coefficient (95% confidence interval): -2.96 (-3.08 - -2.86); -2.00 (-2.09 - -1.92); -1.85 (-1.92 - -1.82) at 26%, 59%, and 72% relative humidity, respectively			
Analytical Method and Analytical Details	HP Model 5088A GC-FID, analytes separated on 15M DB-624 capillary column; peak display and integration provided by HP 5088A series GC terminal; detection limit approx. 7 ppm; Extractions based on USPEA SW-846 methods. Soil samples extracted into methanol and subsequent purge-and-trap (Method 5030).			
Transformation Products, Statistics, and Kinetics	Not reported; Linear, Freundlich, and Langmuir models; no significant difference (p< 0.05) between the results of these e models. Linear model results reported, R^2 > 0.80 and slopes significantly greater than 0 (p < 0.05); Kas = [concentration in air]/[concentration in soil]			
Reference Substance and Reference Substance Results	mass balance; Mass balance: > 90% recovery			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	Test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Test substance source and purity were not reported.
Domain 2: Test Design				
	Metric 3:	Study Controls	Medium	A concurrent negative control was not explicitly included in the study.
	Metric 4:	Test Substance Stability	Medium	Minimal details about test substance preparation and storage conditions were reported.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	Temperature, relative humidity, and appropriate soil parameters were reported and were appropriate for the method.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	High	Equilibrium was established and the system type and design were capable of maintaining substance concentrations.
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Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.				
OECD Harmonized Template:	Miscellaneous				
HERO ID:	661088				
Domain		Metric	EVALUATION Rating		Comments
Domain 4: Test Organisms					
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.	
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.	
Domain 5: Outcome Assessment					
	Metric 11:	Test Substance Identity	High	The outcomes assessment methodology addressed the intended outcomes of interest.	
	Metric 12:	Test Substance Purity	High	Study reported the use of sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.	
Domain 6: Confounding/Variable Control					
	Metric 13:	Confounding Variables	High	Variability between measurements was addressed with statistical techniques.	
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.	
Domain 7: Data Presentation and Analysis					
	Metric 15:	Data Reporting	High	Analytical methods used were suitable for detection and quantification of the target chemical and were adequately sensitive.	
	Metric 16:	Statistical Methods and Kinetic Calculations	High	The statistical methods and partition coefficient calculations were described and appropriate.	
Domain 8: Other					
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.	
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.	
Overall Quality Determination			High		

Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.
OECD Harmonized Template:	Miscellaneous
HERO ID:	661088

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	Penreco Oil 2257 (carrier oil, 98% saturated hydrocarbons, 2% unidentified aromatics); NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	Water and air in glass vessel spiked with test substance and allowed to reach equilibrium before determination of test substance concentrations in each phase.; Equilibrated for 24 hr at 30 rpm; Not reported
System Type Design	150 mL glass hypo-vials with 75 mL water, and 75 mL air, spiked with 574 - 1435 ug test substance sealed with Teflon lined rubber septa and aluminum ring.
Sampling Frequency and Sampling Details	Samples processed after 24 hr equilibration.; Solution matrix separated by centrifugation and test substance concentration measured in each phase.
Test Temperature	20±2°C
Results Details	Average log Kh: Air/water partition coefficient (95% confidence interval): -1.65 (-1.77 to -1.57)
Analytical Method and Analytical Details	HP Model 5088A GC-FID, analytes separated on 15M DB-624 capillary column; peak display and integration provided by HP 5088A series GC terminal; detection limit approx. 7 ppm; Extractions based on USPEA SW-846 methods. Water samples extracted via purge-and-trap method (Method 5030).
Transformation Products, Statistics, and Kinetics	Not reported; Partition isotherms were linear, R ² > 0.8 and slope significantly > 0, at alpha = 0.05; Not reported
Reference Substance and Reference Substance Results	mass balance; Mass balance: > 90% recovery

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	Test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	A concurrent negative control was not explicitly included in the study.
	Metric 4:	Test Substance Stability	Medium	Minimal details about test substance preparation and storage conditions were reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	Medium	No water parameters were reported for the study.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across samples and study groups.
	Metric 8:	System Type and Design	High	Equilibrium was established and the system type and design were capable of maintaining substance concentrations.
Domain 4: Test Organisms				

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Study Citation:	Gan, D. R., Dupont, R. R. (1989). Multiphase and multicomponent measurements of batch equilibrium distribution coefficients for six volatile organic compounds. Hazardous Waste and Hazardous Materials 6(4):363-384.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	661088			
		EVALUATION		
Domain	Metric	Rating	Comments	
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcomes assessment methodology addressed the intended outcomes of interest.
	Metric 12:	Test Substance Purity	High	Study reported the use of sampling methods that address the outcomes of interest and used widely accepted methods for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variability between measurements was addressed with statistical techniques.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	Analytical methods used were suitable for detection and quantification of the target chemical and were adequately sensitive.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	The statistical methods and partition coefficient calculations were described and appropriate.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.

Overall Quality Determination**High**

Study Citation:	Midwest Research Institute, (1984). Performance evaluation of full-scale hazardous waste incinerators - Volume I (excutive summary) contract no. 68-02-3177 (43).
OECD Harmonized Template:	Miscellaneous
HERO ID:	1269556

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 112TCA
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	Destruction and Removal Efficiencies (DRE) was determined for selected pollutants in a Ross System incinerator at Ross Incineration Services, Inc., in Grafton, Ohio; Residence time: 6.2 - 6.7 secHeat input: 60 - 87E6 kJ/hrExcess oxygen in stack: 10.4 - 10.7%; Waste feed heating value: 19,710 - 20,400 kJ/kg (liquid organic), 4,090-4520 kJ/kg (aqueous)Moisture: 35 - 48% (liquid organic), 94 - 97% (aqueous)
System Type Design	Rotary kiln, main combustion chamber, water spray, quench, packed towers, electrified scrubber
Sampling Frequency and Sampling Details	NR, 3 sample runs collected.; Liquid and solid feed collected as grab samples. Stack effluent collected by Fast VOST: gas drawn through a series of two traps (Tenax and backup Tenax/charcoal trap) at 1 L/min for 20 min, for a total of 6 pairs.
Test Temperature	1117 - 1154°C
Results Details	DRE: > 99.999994 for all 3 runs
Analytical Method and Analytical Details	GC/ECD (waste feeds); GC/MS (VOST gas samples); Waste feeds mixed with tetraglyme and reagent water prior to analysis. Traps desorbed using a stream of carrier gas into a water column as part of EPA Method 624 purge-trap desorb GC/MS analysis system; recovery 70 - 130%
Transformation Products, Statistics, and Kinetics	Not reported; Linear regression comparison to DRE and starting concentration; no compounds below 200 ug/g in waste feed achieved DRE > 99.99%, correlation coefficient for regression line: - 0.84; Not reported
Reference Substance and Reference Substance Results	VOST blank samples; Values blank corrected

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The chemical of interest was identified by name.
	Metric 2:	Test Substance Purity	High	Sample source was reported.
Domain 2: Test Design	Metric 3:	Study Controls	High	Field blanks were included and results were blank corrected.
	Metric 4:	Test Substance Stability	Medium	Sample processing was reported for some samples, storage was not reported.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6:	Testing Conditions	High	The system stages and appropriate operational parameters were reported.
	Metric 7:	Testing Consistency	High	Samples were collected, processed, and analyzed consistently.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this study type.

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Study Citation:	Midwest Research Institute, (1984). Performance evaluation of full-scale hazardous waste incinerators - Volume I (excutive summary) contract no. 68-02-3177 (43).			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	1269556			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology was appropriate for determining DRE.
	Metric 12:	Test Substance Purity	High	Sampling methods were appropriate and sampled feed and effluents.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	No significant sources of uncertainty were identified. Study is very thorough.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The analytical methods were appropriate; extraction efficiencies were reported. Limits of detection were not reported explicitly.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods were described and applied appropriately.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable, although the study authors noted their purpose was not to determine operational parameters effects on DRE, only normal DRE under standard conditions.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination		High		

Study Citation:	Monsanto, (1987). Monsanto Pensacola plant ground water assessment feasibility study with 19 chemicals with attachments and cover letter dated 121887.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	4214180			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	Not Reported; 1,1,2-trichloroethane			
Confidentiality, Type, Guideline	None; Monitoring data and modeling; Monitoring data and modeling			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; Contaminated site; NR; NA Notes: NR			
Test Method Details, Test Condition Details, and Test Consistency Details	Monitoring sample from Monsanto Pensacola Plant groundwater; NA; NR			
System Type Design	NR			
Sampling Frequency and Sampling Details	NR; NR			
Test Temperature	NR			
Results Details	Detected at 0.002 mg/L; modeling results 0.0009 to 2.3E-8 mg/L			
Analytical Method and Analytical Details	Assumed the Florida Groundwater and Surface Quality Criteria in appendix was used.; NR			
Transformation Products, Statistics, and Kinetics	NR; NR; NR			
Reference Substance and Reference Substance Results	NR; NR			
EVALUATION				
Domain	Metric	Rating		Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	N/A	This metric does not apply to this type of study.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	This metric does not apply to this type of study.
	Metric 4:	Test Substance Stability	N/A	This metric does not apply to this type of study.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Uninformative	Lack of information resulted in serious flaws that make the study unusable.
	Metric 6:	Testing Conditions	Uninformative	Lack of information resulted in serious flaws that make the study unusable.
	Metric 7:	Testing Consistency	N/A	This metric does not apply to this type of study.
	Metric 8:	System Type and Design	N/A	This metric does not apply to this type of study.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	N/A	This metric does not apply to this type of study.
	Metric 10:	Sampling Methods	N/A	This metric does not apply to this type of study.
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Study Citation:	Monsanto, (1987). Monsanto Pensacola plant ground water assessment feasibility study with 19 chemicals with attachments and cover letter dated 121887.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	4214180			
Domain	Metric	EVALUATION Rating		Comments
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Medium	There was incomplete reporting of outcome assessment methods; however, such differences or absence of details were not likely to be severe or have a substantial impact on the study results.
	Metric 12:	Test Substance Purity	Low	Details regarding sampling methods of the outcome(s) were not fully reported, and the omissions were likely to have a substantial impact on study results.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	This metric does not apply to this type of study.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	This metric does not apply to this type of study.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Low	Concentrations of the target chemical or transformation product(s), extraction efficiency, percent recovery, or mass balance were not measured or reported, preventing meaningful interpretation of study results.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Limited statistical and/or kinetic details reported; however, these differences were not likely to have a substantial impact on study results.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	The study results were reasonable.
	Metric 18:	QSAR Models	N/A	This metric does not apply to this type of study.
Overall Quality Determination		Uninformative		

Study Citation:	(1982). Fate of Priority Pollutants in Publicly Owned Treatment Works, Volume I.
OECD Harmonized Template:	Miscellaneous
HERO ID:	1265686

EXTRACTION

Parameter	Data
CASRN and Test Material	Not Reported; 1,1,2-trichloroethane
Confidentiality, Type, Guideline	None; experimental; experimental
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR
Radiolabel, Source, State, Purity	No; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	influent, effluent and sludge samples from 50 treatment plants (plant descriptions are available); duplicate and field blanks were included; plant treatments: primary (P); secondary activated sludge (AS); secondary trickling filter (TF); secondary oxygen activated sludge (OAS); secondary rotating biological contactor (RBC); secondary aerated lagoon (AL); secondary parallel activated sludge and trickling filter (AS/TF); tertiary (T); not reported
System Type Design	not reported
Sampling Frequency and Sampling Details	influent, effluent, sludge; in general: six consecutive days; 24 hour samples; more detail are available.
Test Temperature	not applicable
Results Details	not reported
Analytical Method and Analytical Details	EPA volatile protocol; mean recovery 57-100% and 100±17%
Transformation Products, Statistics, and Kinetics	not applicable; % detection @ influent concentration: 7% @ 1-135 ug/L (POTW 1-40); not detected (POTW 51-60); effluent concentrations: 3% @ 1-6 ug/L (POTW 1-40); not detected (POTW 51-60); sludge concentrations: 4% @ 1-2100 ug/L (POTW 1-40); 2% @ 38-38 ug/L (POTW 51-60); not reported
Reference Substance and Reference Substance Results	not applicable; Not Reported

EVALUATION

Domain	Metric	Rating	Comments
Domain 1: Test Substance			
	Metric 1: Test Substance Identity	High	The test substance was identified by common name.
	Metric 2: Test Substance Purity	N/A	The metric is not applicable to the study type.
Domain 2: Test Design			
	Metric 3: Study Controls	High	Concurrent blanks and controls were analyzed.
	Metric 4: Test Substance Stability	N/A	The metric is not applicable to the study type.
Domain 3: Test Conditions			
	Metric 5: Test Method Suitability	High	The test method was suitable for the test substance.
	Metric 6: Testing Conditions	High	Testing conditions were monitored, reported, and appropriate for the method.
	Metric 7: Testing Consistency	High	The conditions were documented.
	Metric 8: System Type and Design	N/A	The metric is not applicable to the study type.
Domain 4: Test Organisms			

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Study Citation:	(1982). Fate of Priority Pollutants in Publicly Owned Treatment Works, Volume I.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	1265686			
Domain		Metric	EVALUATION Rating	Comments
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to the study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to the study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed or reported the intended outcome of interest.
	Metric 12:	Test Substance Purity	High	The study reported the use of sampling methods that address the outcome of interest, and used widely accepted methods/approaches for the chemical and media being analyzed.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Sources of variability and uncertainty in the measurements, and statistical techniques and between study groups were considered and accounted for in data evaluation.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to the study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The target chemical concentrations, extraction efficiency, percent recovery, or mass balance were reported.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods or kinetic calculations were clearly described and address the dataset.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	Reported values were expected.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to the study type.
Overall Quality Determination			High	

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Field monitoring; Field monitoring			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Test Method Details, Test Condition Details, and Test Consistency	Loss of test substance was determined from field monitoring data from the Rhine River; Not reported; Not reported			
Details				
System Type Design	Not reported			
Sampling Frequency and Sampling Details	Not reported; Not reported			
Test Temperature	Not reported			
Results Details	Half-life: 1.9 d, likely evaporative loss			
Analytical Method and Analytical Details	Not reported; Not reported			
Transformation Products, Statistics, and Kinetics	Not reported; Not reported; Not reported			
Reference Substance and Reference Substance Results	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 2: Test Design	Metric 3:	Study Controls	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 4:	Test Substance Stability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 6:	Testing Conditions	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 7:	Testing Consistency	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 8:	System Type and Design	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	N/A	This metric does not apply to this type of study.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.

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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6629789			
Domain	Metric	EVALUATION Rating		Comments
Domain 5: Outcome Assessment	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail. It appears that volatilization was not directly measured.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis	Metric 15:	Data Reporting	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.
Overall Quality Determination			Medium	

* Related References: Zoeteman BCJ et al; Chemosphere 9: 231-49 (1980)

Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6629789			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; 1,1,2-TCA			
Confidentiality, Type, Guideline	None; Experimental; Experimental			
Solvent, Reactivity, Storage, Stability	NR; NR; NR; NR			
Radiolabel, Source, State, Purity	NR; NR; NR; NR			
Test Method Details, Test Condition Details, and Test Consistency	Rate of evaporation measured from stirring a beaker of distilled water and the test substance; Not reported; Not reported			
Details				
System Type Design	Beaker of distilled water, stirred			
Sampling Frequency and Sampling Details	Not reported; Not reported			
Test Temperature	Not reported			
Results Details	Volatilization half-life: 35 min			
Analytical Method and Analytical Details	Not reported; Not reported			
Transformation Products, Statistics, and Kinetics	Not reported; Not reported; Not reported			
Reference Substance and Reference Substance Results	Not reported; Not reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1: Test Substance Identity	High	The test substance was identified by name.	
	Metric 2: Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
Domain 2: Test Design	Metric 3: Study Controls	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
	Metric 4: Test Substance Stability	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
Domain 3: Test Conditions	Metric 5: Test Method Suitability	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
	Metric 6: Testing Conditions	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
	Metric 7: Testing Consistency	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
	Metric 8: System Type and Design	Medium	Not reported in this secondary source; the primary source likely contains more detail.	
Domain 4: Test Organisms	Metric 9: Outcome Assessment Methodology	N/A	This metric does not apply to this type of study.	
	Metric 10: Sampling Methods	N/A	The metric is not applicable to this study type.	
Domain 5: Outcome Assessment				
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Study Citation:	NCBI, (2020). PubChem database: compound summary: 1,1,2-trichloroethane.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6629789			
Domain	Metric	EVALUATION		Comments
	Metric 11:	Test Substance Identity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 12:	Test Substance Purity	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	Medium	Not reported in this secondary source; the primary source likely contains more detail.
	Metric 16:	Statistical Methods and Kinetic Calculations	Medium	Not reported in this secondary source; the primary source likely contains more detail.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results are reasonable based on the data's inclusion in a peer-reviewed/recognized database or other secondary source.
	Metric 18:	QSAR Models	N/A	Rating of this factor is not applicable to this kind of information.
Overall Quality Determination			Medium	

* Related References: Primary reference is HERO ID 18370: Dilling WL; Environ Sci Technol 11: 405-9 (1977)

Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	5185306			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; Not Reported			
Confidentiality, Type, Guideline	none; Environmental distribution; Environmental distribution			
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported			
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported			
Test Method Details, Test Condition Details, and Test Consistency	generic Mackay level III fugacity model; Not Reported; Not Reported			
Details				
System Type Design	Not Reported			
Sampling Frequency and Sampling Details	Not Reported; Compartment: Release 100% to air Release 100% to water Release 100% to soil Air: 98.7% 31.3% 37.0% Water: 1.0% 68.1% 1.4% Soil: 0.3% 0.1% 61.5% Sediment: 0.0% 0.6% 0.0%			
Test Temperature	Not Reported			
Results Details	Not Reported			
Analytical Method and Analytical Details	Not Reported; Not Reported			
Transformation Products, Statistics, and Kinetics	Not Reported; Not Reported; Not Reported			
Reference Substance and Reference Substance Results	Not Reported; Not Reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 2: Test Design	Metric 3:	Study Controls	N/A	The metric is not applicable to this source.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.
Domain 4: Test Organisms	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.
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Study Citation:	OECD, (2000). SIDS initial assessment profile: 1,1,2-Trichloroethane, CAS No.: 79-00-5.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	5185306			
Domain		Metric	EVALUATION Rating	Comments
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited detail in secondary source; primary source not cited.
	Metric 18:	QSAR Models	Medium	Generic Mackay level III fugacity model; no additional detail.
Overall Quality Determination			Medium	

* Related References: Primary source not specified.

Study Citation:	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6406226			
EXTRACTION				
Parameter	Data			
CASRN and Test Material	79-00-5; Not Reported			
Confidentiality, Type, Guideline	Not Reported; Not Reported; Not Reported			
Solvent, Reactivity, Storage, Stability	Not Reported; Not Reported; Not Reported; Not Reported			
Radiolabel, Source, State, Purity	Not Reported; Not Reported; Not Reported; Not Reported			
Test Method Details, Test Condition Details, and Test Consistency	Volatilization from a stirred beaker; Not Reported; Not Reported			
Details				
System Type Design	Not Reported			
Sampling Frequency and Sampling Details	Not Reported; Not Reported			
Test Temperature	Not Reported			
Results Details	Volatilization half-life = 21 minutes; 90%loss after 102 minutes.			
Analytical Method and Analytical Details	Not Reported; Not Reported			
Transformation Products, Statistics, and Kinetics	Not Reported; Not Reported; Not Reported			
Reference Substance and Reference Substance Results	Not Reported; Not Reported			
EVALUATION				
Domain	Metric	Rating	Comments	
Domain 1: Test Substance				
Metric 1:	Test Substance Identity	High	The test substance was identified.	
Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this source.	
Domain 2: Test Design				
Metric 3:	Study Controls	N/A	The metric is not applicable to this source.	
Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this source.	
Domain 3: Test Conditions				
Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this source.	
Metric 6:	Testing Conditions	N/A	The metric is not applicable to this source.	
Metric 7:	Testing Consistency	N/A	The metric is not applicable to this source.	
Metric 8:	System Type and Design	N/A	The metric is not applicable to this source.	
Domain 4: Test Organisms				
Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this source.	
Metric 10:	Sampling Methods	N/A	The metric is not applicable to this source.	
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Study Citation:	U.S. EPA, (1982). An exposure and risk assessment for trichloroethanes.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	6406226			
Domain	Metric	EVALUATION		Comments
		Rating		
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	N/A	The metric is not applicable to this source.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this source.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this source.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this source.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this source.
	Metric 16:	Statistical Methods and Kinetic Calculations	N/A	The metric is not applicable to this source.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Low	Limited details; however, the primary source is cited.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this source.

Overall Quality Determination

Medium

* Related References: Source cited: Dilling, W.L. et al., Environ. Sci. Technol. 9(9):833-838; 1975 (not available at time of extraction)

Study Citation:	Washington, J. W. (1996). Gas partitioning of dissolved volatile organic compounds in the vadose zone: Principles, temperature effects and literature review. Groundwater 34(4):709-718.
OECD Harmonized Template:	Miscellaneous
HERO ID:	647200

EXTRACTION	
Parameter	Data
CASRN and Test Material	Not Reported; 1,1,2-Trichloroethane
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	NA; NA; NA; NA
Radiolabel, Source, State, Purity	NA; NA; NA; NA Notes: NA
Test Method Details, Test Condition Details, and Test Consistency Details	Calculation of enthalpy and entropy of volatilization; NR; NA
System Type Design	NA
Sampling Frequency and Sampling Details	NA; NA
Test Temperature	NA
Results Details	Enthalpy of volatilization = 32.73 kJ/M and entropy of volatilization = 51.1 J/MK
Analytical Method and Analytical Details	NA; NA
Transformation Products, Statistics, and Kinetics	NA; NA; NA
Reference Substance and Reference Substance Results	NA; NA

EVALUATION				
Domain		Metric	Rating	Comments
Domain 1: Test Substance				
	Metric 1:	Test Substance Identity	High	The test substance was identified definitively.
	Metric 2:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 2: Test Design				
	Metric 3:	Study Controls	N/A	The metric is not applicable to this study type.
	Metric 4:	Test Substance Stability	N/A	The metric is not applicable to this study type.
Domain 3: Test Conditions				
	Metric 5:	Test Method Suitability	N/A	The metric is not applicable to this study type.
	Metric 6:	Testing Conditions	N/A	The metric is not applicable to this study type.
	Metric 7:	Testing Consistency	N/A	The metric is not applicable to this study type.
	Metric 8:	System Type and Design	N/A	The metric is not applicable to this study type.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.

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Study Citation:	Washington, J. W. (1996). Gas partitioning of dissolved volatile organic compounds in the vadose zone: Principles, temperature effects and literature review. Groundwater 34(4):709-718.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	647200			
EVALUATION				
Domain		Metric	Rating	Comments
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	Low	Enthalpy and entropy data presented in support of volatilization estimates.
	Metric 12:	Test Substance Purity	N/A	The metric is not applicable to this study type.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	N/A	The metric is not applicable to this study type.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	N/A	The metric is not applicable to this study type.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Statistical methods or kinetic calculations were clearly described and address the dataset.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	Medium	No serious study deficiencies were identified, and the value was plausible.
	Metric 18:	QSAR Models	N/A	A QSAR model was not reported.
Overall Quality Determination			Low	

Study Citation:	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.
OECD Harmonized Template:	Miscellaneous
HERO ID:	3797830

EXTRACTION	
Parameter	Data
CASRN and Test Material	79-00-5; 1,1,2-TCA
Confidentiality, Type, Guideline	None; Experimental; Experimental
Solvent, Reactivity, Storage, Stability	Water; NR; Feed solution kept on ice, in a Teflon gas-sampling bag with a Teflon septum valve; NR
Radiolabel, Source, State, Purity	NR; NR; NR; NR
Test Method Details, Test Condition Details, and Test Consistency Details	Fate and transport of selected pollutants were studied in a column system representing sandy soil overlying groundwater; Test substance applied at 1.00 and 0.16 mg/L for 45 d; Steady state reached after 25 dColumns received 14 cm water per dayAir delivered to headspace at pressure of 2 cm of water; 12 mL/min air removed from headspace; Three replicate columns.Soil: sandy soil, pH 6.4, CEC 3.5, 92% sand, 5.9% silt, 2.1% clay, 0.087% organic carbonColumn bulk density: 1.65 g/cm ³ Column hydraulic conductivity: 120 to 190 cm/dSpring water: pH 7.2, HCO ₃ ⁻ alkalinity 513 ppm
System Type Design	Borosilicate glass process column (5 cm i.d by 150 cm), packed with soil to a depth of 140 cm, connected at the top to a trap for volatile compounds, influent for dry air, and connection to feed solution; at the bottom, end plug effluent to sample
Sampling Frequency and Sampling Details	Not reported; Aqueous effluent and trapped volatiles analyzed
Test Temperature	20 ± 1°C
Results Details	Volatilized (high, low starting concentration): 27±16%, 47±13%Column effluent (high, low concentration): 65±12%, 61±5%Degraded or not accounted for (high, low concentration): 8 ± 10%, -8±7%Flux from soil (measured, high concentration): 0.36 µg/cm ³ hrFlux from water (calculated, high concentration): 5.0 µg/cm ³ hrRetardation factor: < 1.5
Analytical Method and Analytical Details	GC-FID; Samples transferred to liquid sample concentrator, volatiles purged and trapped. Aqueous samples extracted 3x into methylene chloride, dried with anhydrous Na ₂ SO ₄ and concentrated; Extraction efficiency: 49-98% (volatiles), 58-74% (aqueous)
Transformation Products, Statistics, and Kinetics	Not reported; Not reported; Water flux = 0.693 VC/t0.5V = volume water, C = conc. effluent, and t0.5 = volatilization half-life (reported elsewhere) Soil flux = DAF/SD = conc. feed solution, A = feed solution application rate, F = fraction volatilized, S = column surface area
Reference Substance and Reference Substance Results	Column receiving spring water alone; Not reported

EVALUATION				
Domain	Metric		Rating	Comments
Domain 1: Test Substance	Metric 1:	Test Substance Identity	High	The test substance was identified by name.
	Metric 2:	Test Substance Purity	Medium	The test substance source and purity were not reported.
Domain 2: Test Design	Metric 3:	Study Controls	High	A negative control was included, the results of which were not reported but assumed to be within an acceptable range.
	Metric 4:	Test Substance Stability	High	Test substance preparation and storage was reported and appropriate.
Domain 3: Test Conditions	Metric 5:	Test Method Suitability	High	The test method was suitable for the test substance.

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Study Citation:	Wilson, J. T., Enfield, C. G., Dunlap, W. J., Cosby, R. L., Foster, D. A., Baskin, L. B. (1981). Transport and fate of selected organic pollutants in a sandy soil. Journal of Environmental Quality 10(4):501-506.			
OECD Harmonized Template:	Miscellaneous			
HERO ID:	3797830			
Domain		Metric	EVALUATION	
			Rating	Comments
	Metric 6:	Testing Conditions	High	Soil and water characteristics were reported, temperature was reported.
	Metric 7:	Testing Consistency	High	Test conditions were consistent across study groups.
	Metric 8:	System Type and Design	High	The system was capable of maintaining test substance concentrations and equilibrium was established.
Domain 4: Test Organisms				
	Metric 9:	Outcome Assessment Methodology	N/A	The metric is not applicable to this study type.
	Metric 10:	Sampling Methods	N/A	The metric is not applicable to this study type.
Domain 5: Outcome Assessment				
	Metric 11:	Test Substance Identity	High	The outcome assessment methodology addressed the outcomes of interest.
	Metric 12:	Test Substance Purity	High	Sampling methods were appropriate.
Domain 6: Confounding/Variable Control				
	Metric 13:	Confounding Variables	High	Variation between replicates was accounted for via statistical techniques.
	Metric 14:	Health Outcomes Unrelated to Exposure	N/A	The metric is not applicable to this study type.
Domain 7: Data Presentation and Analysis				
	Metric 15:	Data Reporting	High	The analytical method was appropriate, extraction efficiencies were reported, mass balance was accounted for.
	Metric 16:	Statistical Methods and Kinetic Calculations	High	Flux calculations were described and applied appropriately.
Domain 8: Other				
	Metric 17:	Verification or Plausibility of Results	High	The results were reasonable.
	Metric 18:	QSAR Models	N/A	The metric is not applicable to this study type.
Overall Quality Determination			High	

List of Abbreviations and Acronyms for Data Quality Evaluation and Extraction Tables

Term	Definition
BAF	Biaccumulation Factor
BCF	Bioconcentration Factor
BMF	Biomagnification Factor
BSAF	Biota-sediment Accumulation Factor
C	Concentration
CASRN	Chemical Abstract Service registry number
DOC	Dissolved Organic Carbon
dw	Dry weight
DW	Drinking Water
DWTP	Drinking Water Treatment Plant
EPA	Environmental Protection Agency
ESI	Electrospray Ionisation
FID	Flame Ionisation Detector
FPD	Flame Photometric Detector
GC	Gas Chromatography
g/L	Grams per Liter
HLC	Henry's Law Constant
HPLC	High-performance liquid chromatography
ISO	International Organization for Standardization
K _{oa}	Octanol-Air partition coefficient
K _{oc}	Organic carbon-water partition coefficient
K _{ow}	Octanol-Water partition coefficient
L/d	Liters per day
LOD	Limit of Detection
LOQ	Limit of Quantification
lw	Lipid weight
M	Molarity (mol/L = moles per Liter)
mL/min	Milliliters per minute
mM	Millimolar
MDL	Method Detection Limit
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mg/m ³	Milligrams per cubic meter
MRL	Method Reporting Limit
MS	Mass Spectrometry
n	Sample Size
N/A	Not applicable
ND	Non-Detection
ng/L	Nanograms per Liter

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Term	Definition
nm	Nanometers
NR	Not Reported
OECD	Organisation for Economic Co-operation and Development
· OH	Hydroxyl radical
OPE	Organophosphate Ester
pg/L	Picograms per Liter
ppm	parts per million
QSAR	Quantitative Structure Activity Relationship
RSD	Relative Standard Deviation
SI	Supplemental Information
SIM	Selected Ion Monitoring
SPE	Solid Phase Extraction
STP	Sewage Treatment Plant
TMF	Trophic Magnification Factor
TOC	Total Organic Carbon
TOF	Time of Flight
µg/L or µg/mL	micrograms per liter or per milliliter
UPLC	Ultra-performance liquid chromatography
US or USA	United States of America
UV (UV-Vis)	Ultra Violet (Visible)
ww	Wet Weight
WWTP	Wastewater Treatment Plant