74-83-9 Methyl Bromide	NC	AZ*			CA		CT		FL			GA		ID	KS*	MD	MA		ND	NJ		NY		NV*	OK		PA			SC	TX		VA	
Whole State?	Yes - Proposed	Yes			Yes		Yes		Pinellas County			Yes		Yes	Yes	Yes	Yes			Yes		Yes		Yes	Yes		Philedelphia - County		65 Counties	Yes	Yes		Yes	
Concentration	5	36	9.5	0.026	3,900	800	6,000	1,200	200	48	0.006	800	5	0.095	47.6	38.83	5.28	2.64	0.000077	5	3,900	3,900	5	0.00476	200		480	120		100	190	19	3,883	19,415
Units	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	PPB		µg/m3			µg/m3	µg/m3
Avg Time	annual/24 hr?				1 hr	24 hr	30 min	8 hr	8 hr	24 hr	annual	15 minute	annual	24 hr	annual	8 hr	24	annual	8 hr	annual	1 hr	1 hr	annual	8 hr	24 hr		annual			24 hr			8 hr	Trigger
ppm	-	-	-	-	~1 ppm	-	1.5 ppm	0.3 ppm	-	-	-	-	-	-	-	-	-	-	-	-	-	~1 ppm	-	-	-	-	-	-	-	-	-	-	1 ppm	5 ppm
Basis for this Value?		*Arizona did have three levels but has more recently gone to 500 µg/m3 per hour for AAL, but this information may still be inacurate until confirmation from state official.			o Acute REL 3900 µg/m3 □ endpts - Anorexia, nausea, headache, respiratory irritation; reproductive/ development (decreased fertility and delayed skull ossification in rats) □ target organs – CNS (neurotoxic), respir, reprod/devl □ last revised: 1999 o chronic REL 5 µg/m3 □ target organs – respir, NC, devl □ last revised: 2000 o Prop 65 reproductive toxicity □ 810 µg/day □ listed cause: developmental toxc □ listed 1993, last revision 2004		Threshold Limit Values (TLVs) from ACGIH, IARC, NCI, and NTP, NIOSH, OSHA					Guidline based, not an actual Rule. Two Minor facilities currently permitted (Royal Pest). See MARAMA Excel Sheet		ACGIH TLV	State Contact is not aware of current methy bromide rule, removed in 1990	ACGIH TLV See MARAMA Excel Sheet	ACGIH TLV			Uses the TLV approach, and when values are not available, they use the most health protective values	ID IRIS 0.005 µg/m3 as RfC for non-short-term exposures AND California Office of Environmental Health Hazard Assessment (OEHHA), "All OEHHA Acute, 8-hour and Chronic Reference Exposure Levels as of June 2014"		AGCs or Annual Guideline, NY's AGC for MeBr = 5.0 µg/m3 referencing the EPA IRIS RfC for annual averaging, and for 1-hour use NY's SGC for MeBr = 3900 µg/m3, noted as "NYSDEC derived" which is the same as California		State Contact explains they do not set AAL for toxicants beyond federal adoption of NESHAPs					Currently no statewide Rule, but part of MARAMA project.		6 Ton Exemption			State law overrides the Virginia DEQ air toxics rule. The 5 ppm is the methyl bromide label value as well as the OSHA PEL. The 1 ppm value is the ACGIH. These values are at the property line, not anywhere in the ambient air.
Modification Factors?							Reduction value of 200 for Table 1 compounds, 100 for Table 2 compounds, and 50 for Table 3 (MeBr is in Table 3)							1/20 safety factor		1/100th	Divided by 4.2 occup exposure to continuous, 1.75 adult to child, 5 for relative source contribution	Divided by 4.2 occup exposure to continuous, 1.75 adult to child, 10 to account for carcinogenicity based on weight of evidence for carcinogenicity, mutagenicity and structural activity relationship analysis.		o note use for "long-term (maximum annual average) ambient air concentrations"; use annual averaging time w/o any apparent modification									NA			NA	
Decision Points for Factors?							CTDEEP only has a state AAQS for dioxin/furan. All other HAPs are Hazardous Limiting Values. CT accepts modeling in lieu of site monitoring in their rule.							1/20 safety factor applied to all occupational health factors for noncarcinogens		regulations, COMAR 26.11.16.03.A(1)a, http://www.dsd.state.md.us/comar/comarhtml/26/26.11.16.03.htm						• non-carcinogens, short-term risks - Hazard Quotientshort-term = Cst/RfCst where: Cst = Short-term average ambient air concentration from AERMOD (µg/m3), of the unique air toxic RfCst = Short-term reference concentration (µg/m3), of the unique air toxic o short term RfC is compared with the maximum average ambient air concentration averaged over the period given in the "RfC Averaging Time" column in the "Toxicity Values for Inhalation Exposure" document o Air Emissions RA_NJDEP.2018, pg 13 • averaging time, non-CAc either annual, or specific # hrs, depending on the basis of the RfC (pg 23, Air Emissions RA_NJDEP.2018) • "short-term RfC" • non-carcinogens, short-term risks - Hazard Quotientshort-term = Cst/RfCst where: Cst = Short-term average ambient air		• pg 6 – calculated 1-hr [air] compared to Short-Term Guideline Concs (SGC); o long-term exposure based upon the months of exposure which occur during pregnancy or for periods from one year to a lifetime o calculated maximum annual HTAC (High Toxicity Air Contaminants) concentration from all NESHAP (National Emission Standards for Hazardous Air Pollutants) process emission sources at the affected facility should be compared to the Department's AGC and SGC □ HTAC list in 212-2.2 Table 2									NA			NA	
Averaging Time Decision Basis?							Based on regulation, 8-hr and 30 minutes							Non carcinogens are evaluated on a 24 hour basis and carcinogens on an annual basis. (AALs for carcinogens are derived primarily from IRIS.)		Source	noncancer effects	cancer effects					□ AGC & SGCs (pg 37) • SGCs are chosen to protect the general population from adverse, acute, 1-hour exposures. • AGCs are chosen to protect against adverse, long-lasting effects from exposure lasting months, years, or lifetimes and are based upon a conservative annual exposure based on either carcinogenic or non-carcinogenic health endpoints. o When an AGC is assigned based upon carcinogenic health effects, the AGC concentration corresponds to an upper-bound excess lifetime cancer risk of 1 in-one-million people ("U" in column 1 codes) • source in "W" (who) column									NA			NA	
Date for Establishing AAL?			1993	1993			1986	1986						1995	1983	?	1990	1990		2018	2014									NA			NA	NA
Date for Last Review for AAL?			1999	2000			1986	1986						NA	1990	2017	2010	2010		2018	2014									NA			NA	NA
Decision Point Process for Updating Toxic Values?			• Jan 2010 DPR memo stated would develop regulatory language to revise current MeBr regulations to meet new regulatory target levels: o bystander exposure – regulatory target level = 5 ppb (19 µg/m3) o occupational exposure – 13 ppb (50.5 µg/m3)				Unkown history because toxicologist position no longer staffed. The decision would come from DEEP and DPH Panel upon request by the Commissioner.					They use a Guideline to set limits not an actual Rule. The guidelines fall under the authority of a more general rule.		The Idaho TAP rule was controversial when implemented and there is a concern that if an attempt is made to update the rule, it could be deleted entirely.		Updates from ACGIH, or if EPA establishes carcinogenic values.	Program need and availability of new toxicity information			In August 2018 tox values list, they used the IRIS 0.005 µg/m3 for non-short-term exposures.									NA			State Law Adoption	
Provided Documentation, References, Calculations:		*Arizona did have three levels but has more recently gone to 500 µg/m3 per hour for AAL	• DPR August 2017 (Cal_air_monitoring_results_2010-2016) o 1-yr SL = 1 ppb (3.88 µg/m3) based on nose tissue damage; no regulatory target level o 4-wk regulatory target level = 5 ppb (19 µg/m3), based on brain/nerve damage o 1-day regulatory target level = 210 ppb (810 µg/m3), based on brain/nerve damage • MADL (max allowable dose level), reference: MeBr_MADL_structural.fumigant_oehha.2004 o OEHHA o Prop 65 – reprod toxc (developmental		*Connecticut did have one level (400 µg/m3 per 8hr) indicated in the clearinghouse but actually has two according to the state contact					See "How To" Document		Husain Waheed (410-537-3238) or Nolan Penny of Permits Program	See response to questions and attached documents.					TITLE 6. DEPARTMENT OF ENVIRONMENTAL CONSERVATION CHAPTER III. AIR RESOURCES SUBCHAPTER B. AIR QUALITY CLASSIFICATIONS AND STANDARDS PART 257. AIR QUALITY STANDARDS SUBPART 257-1. AIR QUALITY STANDARDS—GENERAL 6 CRR-NY 257-1.4 6 CRR-NY 257-1.4 257-1.4 Compliance.							They have one MeBr fumigation site for pasta ingredients at a Macaroni plant in Dauphin County. In 1995 set risk assessment protocol for emitting facilities.		NA			*In the past Virginia did have one level (0.019 µg/m3) indicated in the clearinghouse but actually replaced by statute with a secondary triggering value according to the state contact	
Sent email?			Yes			Yes	Yes		Yes		Yes	Yes		Yes	Yes	Yes		mark.wert@mass.gov					Yes	Yes		Yes			Yes			Yes	
Called?		Attempt Fail	Provided by Sandy						Yes			Yes				410-537-4488		919-292-5598						Ryan Clark						Yes			Yes	
Contact		Tomothy Franquist AQPlanning 602-771-4106	Gabe Ruiz https://oehha.ca.gov/chemicals/methyl-bromide				Rick Pirolli	AirQuality@pinnellascounty.org	Elisabeth Munsey Thomas Giordano Michael Odon404-363-7096			Carl Brown		Doug Watson	Randy Mosier Doug Watson	randy.mosier@marylanc	Mark Wert Sandra (Sandy) Baird		Uses the TLV approach, and when values are not available, they use the most health protective values	Provided by Sandy		Provided by Sandy		Sig Jaunarajs Sig : 687-9392 Ryan : 687-9536	Toni Payne 405-702-4168 Cheryl Bradle 405-702-4175 .deq.state.ok.us				Craig Evans		Yes Hetal Patel			Yes Pat Corbett 804-698-4016 *He is interested in a followup and discussion to consider rule changes for Virginia possibly	
		AQPermitting 602-771-2285												Douglas.Watson@ks.gov (785) 296-0910																		Michael Hone 512-239-1793 Sabine Lange 512-239-3108		