Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Shu et al., 2014 [46] Sweden Respiratory effects	Cohort, health and home questionnaire (bespoke), medical diagnosis 'Dampness in Buildings and Health' study (DBH) phase I, III & IV	Phthalates (not specified), flooring material including PVC, wood and linoleum	3228 children in the age of 1 to 5 years 49.7% Female: 30.3% Male 1052 children aged 1 (32.6%) 1085 children aged 2 (33.6%) 1091 children aged 3 (33.8%)	Indoor home environment not monitored	Age, gender, allergies (asthma, eczema and/or rhinitis) in the family (father, mother and siblings), smoking in the family (father, mother, siblings and others), single-parent households where child live with one adult only, housing types (multifamily house, single family house)	5- and 10-year follow up crude analysis PVC in childhood was associated with the development of doctor-diagnosed asthma, slight differences between: PVC flooring in children's bedroom (OR 1.49; 95% CI 0.92-2.42 /OR 1.41; 95% CI 0.99 – 2.01) PVC flooring in parents' bedroom (OR 1.75; 95% CI 1.08 – 2.83/ OR 1.96; 95% ci 1.38 – 2.79) at the baseline. Although when adjusted for potential confounding variables then the differences became less significant. Stratified analysis was undertaken to assess whether the number of rooms made a difference. In the 10-year follow up model, PVC flooring in

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						parents bedroom only (aOR 2.23; 95%CI 1.11-4.47) was more associated with doctor diagnosed asthma than PVC flooring in child's bedroom only (aOR 0.82; 95% CI 0.39 – 1.72)
Canbaz et al., 2016 [53] Sweden Respiratory effects	Case/control, Health questionnaire (bespoke), medical diagnosis, BAMSE (Barn, Allergy, Milieu Stockholm Epidemiology) Cohort Case: Asthma at 4 or 8 years old was defined by 2 of 3 criteria 1) >1 episode of wheeze in last 12 months 2) Doctor's diagnosis of asthma 3) Asthma medication	Flame retardants (OPFR and PBDE), indoor dust (ng/g) OPFR: TCEP, TCIPP, TDCIPP, TBOEP, TPHP, EHDPHP and mmp-TMPP PBDE: BDE-47, -99, -100, -153, -183, -209	N=220 children Case n=110, Female 48; Male 62 Transient asthma 0-4 years = 11 female/20 male Late asthma 4 – 8 years = 18 female/28 male Persistent asthma 0-8 years = 19	220 dust samples from mother's **mattress** when child was 2 months old. TPHP median dust 419ng/g case v 631ng/g control (p=0.007) mmp-TMPP median dust 192ng/g case v 288ng/g control (p=0.026)		There was no positive association between the flame retardants and the development of childhood asthma. In regard to mmp-TMPP, significantly higher concentration was observed in houses built before 1960 (p=0.0001) and higher frequency of vacuum cleaning (>10 per month) reports a significant decreased (p=0.030) Dust collected from mattress of case children contained significant lower levels of TPHP and mmp-

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	prescribed over last 12 months Control: matched on sex, atopic background of parents and socio-economic status		female/14 male Control n=110 Female 48; Male 62 matched from BAMSE birth cohort			TMPP than matched controls
Chevrier et al., 2016 [54] France Neurological effects	Cohort, Wechsler Intelligence Scale for children-IV Cognitive domain of 6-year-olds Verbal comprehension index (VCI) and working memory index (WMI)	Flame retardants (BDE-88, BDE-99, BDE-100, BDE-119 AND BDE-209), indoor dust Possible source of exposure is household consumer products but also need to consider individual behaviours.	246 families in the PELAGIE mother-child cohort VCI n=246 (117 males, 129 females) WMI n= 243 (115 males and 128 females)	246 properties – Dust from vacuum cleaner bags. Mean concentration of BDE 209 was 1045 ng/g and BDE-99 was 200ng/g.	PCB, mercury, lead, organophosphate insecticides, tobacco smoke	VCI scores were lower in children from homes with higher concentrations of BDE99 (≥54ng/g) (p trend =0.02 overall; p trend = 0.02 (boys) and 0.34 (girls) VCI scores were lower in boys from homes with higher concentrations of BDE 209 (p trend = 0.04) WMI scores were not statistically significant for BDE 99 and BDE 209 concentrations.

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Heudorf et al., 2005 [63] Germany Respiratory effects	Health questionnaire: modified from International Study of Asthma and Allergies in Children (ISAAC)	PAHs (BaP), parquet glue, indoor dust	287 children below 6 years of age 53% were male, 47% female Mean age was 3.6± 1.3 years (range 0.2 – 5.9 years)	BaP levels in parquet glue (215 homes) & household dust (212 homes)	ETS	Most correlations between symptoms and external BaP exposure via parquet glue and household dust were low and insignificant. Significant associations were found between passive smoking and dermal/bronchial symptoms and with nausea and lack of concentration. Odds-ratios between symptoms and minimum and maximum exposure status (< 10mg BaP/kg vs. >3000mg BaP/kg parquet glue and <LOD BaP/kg vs. >1mg BaP/kg household dust) were insignificant apart from dry cough without a cold (OR 0.143/adj OR 0.149) and BaP in parquet glue.
Bornehag et al., 2004 [47] Sweden	Case /control, health questionnaire (bespoke), medical diagnosis	Phthalates, indoor dust	N=400 children (3-8 years old)	390 surface dust concentrations from children's bedroom	'Dampness in Buildings and Health' study (DBH) – Phase II	Higher median concentrations of BBzP in dust among cases than

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Respiratory effects	Case: Initial (<12 months) and follow up (1.5 years) questionnaire reports ≥ two incidents of eczema or wheezing or rhinitis. Control: no symptoms in either questionnaire	Phthalates: DEP, DIBP, DnBP, BBzP, DEHP, DINP	198 cases and 202 controls	GM dust concentrations of BBzP and DEHP were higher in bedrooms with PVC flooring, than in bedroom without such flooring BBzP: 0.208 (n=164) vs. 0.147 (n=107) mg/g dust (p=0.001) DEHP: 0.994 (n=186) vs. 0.638 (n=155) mg/dust (p=0.001)		among control (0.15 vs. 0.12mg/g dust) Case group analysis showed that BBzP was associated with rhinitis (p=0.001) where DEHP was associated with asthma (p=0.022) compared with controls. Homes with PVC in the child's bedroom (n=189) median BBzP concentrations were significantly higher among cases compared with control (0.21 vs. 0.16mg/g dust respectively; Mann-Whitney U test p=0.042)
Bergh et al., 2011 [62] Sweden Respiratory effects	Health questionnaire (Stockholm Indoor Environmental Questionnaire SIEQ)	Flame retardants OPFRs, and phthalates, Indoor air OPFRs: TEP, TiPrP, TPrP, TiBP, TBP, TCEP, TCiPP, TPeP, THP, TDCPP, TBEP, TPP, DPEHP, TToP.	169 (no details about sex or age of occupants)	Air samples taken from 169 apartments in 45 multi storey buildings	Healthy Sustainable Houses in Stockholm	No significant relationship between OPFRs and phthalate levels and any of the reported symptoms (self-reported asthma and allergy or SBS). Limitation of study was symptoms reported as a single frequency for all

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
		Phthalates: DMP, DEP, DiBP, DBP, BzBP, DEHP, DnOP				occupants of the building and not to the level of an individual apartment.
Kolarik et al., 2008 [48] Bulgaria Respiratory effects	Case/Control, health questionnaire ALLHOME study designed to be a twin study to Swedish DBH study. Baseline questionnaire (ALLHOME-1) on housing and health of children in Sofia and Burgas aged 2 ,3, 5 and 7 years. Cases: report at least 2 of 3 symptoms on the questionnaire in last 12 months (wheezing, rhinitis, eczema) Control: Absence of all 3 symptoms plus additional respiratory or dermal symptoms	Phthalates, indoor dust Phthalates: DMP, DEP, DnBP, BBzP, DEHP, DnOP	184 children aged 2 to 7 years old Cases: Males 55; Female 43 50 < 3 years 48 > 3 years <u>Control:</u> Males 37; Female 42 50 < 3 years 29 > 3 years	Dust samples from 177 child's room above the floor **DM dust concentrations (mg/g)** DMPP = 0.26 DEP = 0.35 DnBP = 7.86 DEHP = 0.96 BBzP = 0.32 DnOP = 0.25	ALLHOME study	Presence of *balatum* (PVC and linoleum floor materials) in child's bedroom was significantly associated with case status among the children (adj OR=2.21; 95% CI, 1.13-4.32). A significant association was found between balatum and both wheezing (adj OR = 2.64; 95% CI 1.34 -5.21) and rhinitis in preceding 12 months (adj OR=2.15; 95% CI 1.08 – 4.17). There was no association between concentrations of phthalates in dust and presence of balatum flooring. Higher concentration of DEHP was found in homes

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						of case children than those of control (1.24 vs. 0.86mg/g dust). Polishing products also found to be a strong source of phthalates. Dose response relationship between DEHP in dust and symptoms both in building with high and low polish use. Concentration of DEHP was significantly associated with wheezing in the preceding 12 months (p=0.035) as reported by parents.
Jaakkola et al., 2000 [49] Finland Respiratory effects	Cross sectional health and home questionnaire and medical diagnosis. The questions on respiratory health were developed from the 1978 American Thoracic	Phthalates (not specified), internal plastic wall material	2553 children aged 1 to 7 years old 49 children had asthma and 92 had allergic rhinitis	Plastic wall materials were reported in the homes of 72 children Indoor home environment not monitored	Sex, age, parental education, single guardian, day care centre attendance, presence of furry or feathery pets, exposure to ETS, mold or	Lower respiratory tract symptoms – persistent wheezing (adj OR – 3.42 (95% CI 1.13 - 10.36)), cough (adj OR 2.41 (95% CI 1.04 – 5.63)) and phlegm (adj OR 2.76 (95% CI 1.03 – 7.41)) were strongly related to the presence of

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
	Society questionnaire for children.		No details on gender provided in the paper		dampness problems.	plastic wall materials whereas upper respiratory symptoms were not. The risk of asthma (adj OR 1.52 (95% CI 0.35 – 6.71)) and pneumonia OR 1.81 (95% CI 0.62 – 5.29)) was also increased in children exposed to such materials
Jaakkola et al., 2006 [50] Finland Respiratory effects	Population based case control study, health questionnaire and diagnostic criteria for asthma Self-administered questionnaire modified from the Helsinki Office Environment Study questionnaire. Case: occurrence of at least one asthma like symptoms and demonstration of reversible airways obstruction in lung function investigation	Phthalates (not specified), interior surface materials and recent renovations	1453 Adults aged 21 to 63 years old Cases N=521 Male 175; Female 346 21–29 = 108 30-39 = 107 40-49 = 125 50-59 = 140 60-64 = 41 Control N=932 Male 438; Female 494	Indoor home environment not monitored	Gender, age, education, personal smoking, ETS, water damage and damp spots	No statistically significant associations between the risk of asthma and the presence of any surface material at home. The risk of asthma was slightly increased among subjects with plastic flooring, with an adj OR 1.17 (95% CI 0.84 – 1.62) for plastic on less than ½ and adj OR 1.13 (95% CI 0.5 – 1.50) on ½ or more of the surface area. Renovations that had taken place at home during the past 12 months were not related to an

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
	Control: randomly drawn from the source population by use of a national population registry, recruiting 2:1 ratio to cases		21–29 = 141 30-39 = 224 40-49 = 254 50-59 = 240 60-64 = 73			increased risk of asthma except in the use of floor-levelling plaster which was observed to be a risk for asthma (adj OR 1.81 (95% CI 1.06 – 3.08)
Larsson et al., 2010 [51] Sweden Respiratory effects	Cohort, health questionnaire (ISAAC)	Phthalates (not specified), PVC flooring material	N= 4779 children Males: 2391; Females 2388 1-2 years = 1557 2-3 years = 1568 3-4 years = 1654	Indoor home environment not monitored	'Dampness in Buildings and Health' study (DBH) – Phase III	Adj analyses showed that the incidence of asthma among children was associated with PVC flooring in the child's bedroom (adj OR 1.52 (95% CI 0.99 – 2.35)) and in the parent's bedroom (adj OR 1.46 (95% CI 0.96 – 2.23)). The found risks were on borderline of significance and advised to interpret with caution. Additional positive relationship between the number of rooms with PVC flooring and the cumulative incidence of asthma (no room 1.0 (ref); one room OR 1.5. (95%CI 0.85 – 2.79; two rooms OR 1.77 (95% CI 1.13 – 2.79)

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Bornehag et al, 2005 [68] Sweden Respiratory effects	Cross sectional health and home questionnaire and medical diagnosis Health questionnaire (ISAAC)	Phthalate (not specified), flooring material (PVC, Wood, Linoleum)	10, 851 children aged 1 to 6 years old Male 5441; Female 5410 Age 1 = 2017 2 = 2003 3 = 2115 4 = 2292 5 = 2424	Indoor home environment not monitored	'Dampness in Buildings and Health' study (DBH) was primary focus of this paper – Phase I	Most frequently reported symptoms were wheezing, eczema and rhinitis. Parental symptoms of asthma, rhinitis and/or eczema increase the risk of symptoms for the index child, with OR in the range 1.59 – 3.34; the strongest association was for rhinitis Wheezing and cough at night decreased slightly with age. The prevalence of 'doctor diagnosed asthma' and 'doctor-diagnosed rhinitis' as well as 'rhinitis' on pet and pollen exposure' increased with age. Living in multi-family home increased the risk of all investigated symptoms (doctor diagnosed asthma OR 1.39 (95% CI 1.13 – 1.71) and doctor diagnosed rhinitis OR 2.40 (95% CI 1.31 – 2.40).

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						But in single family houses there was an increase of symptoms if house built after 1977 for cough at night OR 1.35 (95% CI 1.10 – 1.66) and doctor diagnosed rhinitis OR 1.56 (1.09 – 2.24) In crude analysis there was a significantly increased risk of cough at night OR 1.37 (95% CI 1.15 – 1.64); and non-doctor diagnosed rhinitis OR 1.37 (95% CI 1.18 – 1.59); for children with PVC as flooring material however this disappeared in adjusted analyses. Dampness at home increased risk of symptoms with visible mould/damp spots having the strongest association to wheezing OR 1.53 (95% CI 1.08 – 2.18); Cough at night OR 2.50 (95% CI 1.63

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						– 3.82); doctor diagnosed rhinitis OR 2.70 (95% CI 1.36 – 5.35);

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Roze et al., 2009 [55] Netherlands Neurological effects	Cohort as part of the Groningen infant COMPARE (Comparison of Exposure Effect Pathways to Improve the Assessment of Human Health Risks of Complex Environmental Mixtures of Organohalogens) (GIC) study launched within the European COMPARE study Motor outcome was assessed by Movement ABC (standardised test for children 4 – 12 years of age), Touwen's age specific neurological examination and Dutch version of the Developmental Coordination Disorder Questionnaire. Cognitive outcome was assessed using a shortened form of the Weschler Preschool and	Organohalogen compounds including: Brominated flame retardants (BDE 47, -99, -100, -153, -154, HBCDD Chlorinated OHCs (PCB 153, 4,4'-DDE, 40H-CB-107, 40H-CB-146, 40H-CB-187) Wood protective agent (PCP)	62 children 38 boys and 24 girls. Mean age was 5 years 10 months	Home Observation for Measurement of the Environment (HOME) questionnaire were assessed during the first year after birth No environmental measurements undertaken	HOME, socioeconomic status, sex	Brominated flame retardants correlated with worse fine manipulative abilities (BDE-154 adj R=-0.253 p<0.10), worse sustained attention (BDE-47 and BDE-99 adj R=-0.264 p<0.005; BDE-100 adj R=-0.261 p<0.10), better coordination (HBCDD adj R = 0.290 p<0.05), and better behaviour (BDE-99 adj R=0.276 p=<0.005; BDE-100 adj R=0.231 p=<0.010). Chlorinated OHCs correlated with less choreiform dyskinesia (PCB-153 adj R=0.345 p=<0.001; 4,4'-DDE adj R=0.308 p=<0.005; 40H-CB-146 adj R=0.228 p=<0.10) Hydroxylated polychlorinated biphenyls correlated with worse fine manipulative abilities

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
	Primary Scale of Intelligence, subset of the neuropsychological assessment, 2nd edition and Dutch version of Rey's Auditory Verbal Learning Test. Behavioural Outcome assessed using Child Behaviour Checklist, Teacher's report form and parent's ADHD questionnaire					(40H-CB-107 adj R=-0.311 p=<0.005), worse behaviour (40H-CB-146 adj R=-0.411 p=<0.005) and worse inhibition (40H-CB-146 adj R=-0.355 p=<0.005; 40H-CB-187 adj R=-0.346 p=<0.005 PCP correlated with worse coordination (adj R = -0.363 p<0.01), worse attention (adj R= 0.439 p<0.01), and worse performance intelligence (adj R = -0.337 p<0.05) and visual perception (adj R = -0.255 p<0.10)

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Herbstman et al., 2010 [56] America Neurological effects	*Longitudinal cohort (Columbia Center for Children's Environmental Health (CCCEH)* *Maternal intelligence measured using the Test of Non-Verbal Intelligence, 2nd edition. (TONI-2)* *Children's mental and psychomotor development index scores were measured using the Bayley Scales of Infant development, 2nd edition (BSID-II) when <42 months of age* *>48 months of age, Wechsler Preschool and Primary Scale of Intelligence, revised edition (WPPSI-R) was undertaken.*	*Brominated flame retardants (BDE-47, -99, -100, -153, -154, -183, BB-153)*	*152 mothers and 118, 117, 114, 104, and 96 children with available cord PBDE measurements who also had a developmental assessment at 12, 24, 36, 48, and 72 months of age.* *Median cord blood concentrations: BDE-47 = 12.1ng/g lipid* *BDE-99 = 3.5ng/g lipid* *BDE-100 = 1.4ng/g lipid*	*Self-report completed for exposure in home with specific focus on working or living within 1 or 2 miles from the World Trade Centre in New York after 9/11*	*breastfeeding, Environmental Tobacco Smoke, age, sex, ethnicity,*	*children with higher concentrations of BDEs 47, 99, or 100 scored lower on tests of mental and physical development at 12–48 and 72 months.* *Associations were significant for 12-month Psychomotor Development Index (BDE-47)* *24-month Mental Development Index (MDI) (BDE-47, 99, and 100)* *36-month MDI (BDE-100)* *48-month full-scale and verbal IQ (BDE-47, 99, and 100) and performance IQ (BDE-100), and 72-month performance IQ (BDE-100).*

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Johnson et al., 2013 [57] America Endocrine effects	Cross sectional study assessing serum hormone levels in males seeking fertility treatment	Brominated flame retardants (PentaBDE, Octa BDE, DecaBDE, TBB, HBCD, BTBPE, TBPH, DP)	38 males aged 18 to 54 years	Dust from vacuum cleaner at home **GM dust levels (ng/g)** PentaBDE = 1391 OctaBDE = 37.6 DecaBDE = 2287 TBB = 409 HBCD =197 BTBPE = 22 TBPH = 377	Age and body mass index	Significant positive associations were found between house dust concentrations of pentaBDEs and serum levels of free T4 (p=002), total T3 (p=0.05), estradiol (p=0.05), and sex hormone binding globulin (SHBG) (p=0.05), along with an inverse association with follicle stimulating hormone (FSH) (p=0.03). Positive associations of octaBDE concentrations with serum free T4 (p=0.01), thyroid stimulating hormone (TSH) (p=0.05), luteinizing hormone (LH)(p=0.05) and testosterone (p=0.03) Inverse association of decaBDE concentrations with testosterone. (p=0.02) HBCD associated with decreased SHBG and

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						increased free androgen index. (p=0.004) Dust concentrations of BTBPE and TBPH positively associated with total T3. (p=0.07)

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Johnson et al., 2010 [58] America Endocrine effects	Cross sectional study involving couples seeking fertility treatment.	Brominated flame retardants (Penta-, Octa-, Deca-BDE)	N= 24 12 male/female couples aged 18 – 54 years	Dust from vacuum cleaner in the home **GM dust concentration** (ng/g) BDE-47 = 543 BDE-99 = 643 BDE-100 = 135	None reported	Strong correlation (r=0.65-0.89, p<0.05) between dust and serum concentrations of Penta-BDE (BDE -47, -99 and -100) and also strongly correlated within couples (r=0.85, p=0.0005). BDE-153 did not correlate No correlation found for BDE 209 due to low detection rates in serum.

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Meeker et al., 2010 [59] America Endocrine effects	Exposure in men and semen parameters and reproductive and thyroid hormones	OPFR (TDCPP and TPP)	50 males aged between 18 to 54 years	Dust from vacuum cleaner in the home **GM dust Concentration (ng/g)** TDCPP = 1880 TPP = 7400	Age and body mass index	An inter-quartile range (IQR) increase in TDCPP was associated with a 3% [95% confidence interval (CI),–5% to –1%) decline in free thyroxine and a 17% (95% CI, 4–32%) increase in prolactin. There was a suggestive inverse association between TDCPP and free androgen index that became less evident in adjusted models. In the adjusted models, an IQR increase in TPP was associated with a 10% (95% CI, 2–19%) increase in prolactin and a 19% (95% CI, –30% to –5%) decrease in sperm concentration

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Chevrier et al., 2010 [169] America Endocrine effects	Center for the Health Assessment of Mothers and Children of Salinas (CHAMACOS), a birth cohort study of health and environmental exposures,	PBDE (BDE 17, 28, 47, 66, 85, 99, 100, 153, 154, 183)	270 pregnant women at 27th week gestation Mean age is 25 years and 5 months. Participants were mostly low-income Latina women who had emigrated from Mexico within 10 years of enrolment in the cohort	No home assessment recorded	maternal age (continuously), race/ethnicity, education, family income, country of birth, number of years spent in the United States, parity, body mass index, gestational age at the time of blood collection (in weeks, continuously), and smoking, alcohol, and drug consumption during pregnancy	Serum concentrations of individual PBDE congeners with detection frequencies > 50% (BDEs 28, 47, 99, 100, and 153) and their sum (ΣPBDEs) were inversely associated with TSH levels. Decreases in TSH ranged between 10.9% [95% confidence interval (CI), –20.6 to 0.0] and 18.7% (95% CI, –29.2 to –4.5) for every 10-fold increase in the concentration of individual congeners. Odds of subclinical hyperthyroidism (low TSH but normal T4) were also significantly elevated in participants in the highest quartile of ΣPBDEs and BDE-100 and -153 relative to those in the first quartile. Associations between PBDEs and free and total

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						T4 were not statistically significant.

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Deen et al 2022., [64] Denmark Carcinogenicity	Population cohort	PCB-28, 52, 101, 118, 138, 153, 180	N = 38, 613 Mean age at start = 33 (10:61) Mean age at end = 52 (21:77) 49.1% female 50.9% male	Indoor air in home measured **Brøndby Strand Parkerne** PCB_{Total} mean in indoor air (ng/m^3) Contaminated apartment (n=117) = 1487 Reference apartment (n=18) = 46 **Farum Midtpunkt** PCB_{Total} mean in indoor air (ng/m^3) Contaminated apartment (n=83) = 1048 Reference apartment (n=20) = 24	sex, age, ethnicity, education, marital status, calendar time start	Overall risk of cancer was not associated with PCByear, [hazard ratio (HR) for high-exposed vs. low-exposed = 0:98; 95% confidence interal (CI): 0.88, 1.09], but residents exposed to ≥3,000 ng=m3 PCB × year had higher risk of liver cancer (HR = 2:81; 95% CI: 1.28, 6.15) and meningiomas (HR = 3:49; 95% CI: 1.84, 6.64), with indications of exposure–response relationships. Results were suggestive of a higher risk of pancreatic cancer (HR = 1:59; 95% CI: 0.95, 2.64) at the highest aggregated PCB level. For testis cancer, a higher risk was observed among residents exposed to 300–949 ng=m3 PCB × year relative to residents exposed to <300 ng=m3 PCB × year (HR = 2:97; 95% CI: 1.41, 6.28), but the risk was not higher for

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
						residents exposed to ≥950 ng=m3 PCB × year. Apart from this, the risk of specific cancers was similar across exposure groups.

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Stapleton et al., 2011 [60] America Endocrine effects	Pregnancy cohort from Healthy Pregnancy, Healthy Baby (HPHB) study Questionnaire (personal, diet, lifestyle) and serum samples	No source determined Brominated flame retardants (BDE-47, -100, -99, -153, 4'-OH-BDE-49, 6-OH-BDE-47)	137 pregnant women >34 weeks into pregnancy. 80% Non Hispanic black ages 18-22	No measurements in home reported	smoking status, maternal age, race, gestational age, and parity.	PBDEs were detected in all samples and ranged from 3.6 to 694 ng/g lipid. Two hydroxylated BDE congeners (4′ OHBDE 49 and 6OHBDE 47) were detected in > 67% of the samples. BDEs 47, 99, and 100 and ∑BDEs were significantly and positively associated with total thyroxine (TT4) levels (r=0.32-0.50 p <0.05) Free thyroxine (FT4) levels were significantly and positively associated with BDE-47, -153 and ∑BDE (r=0.05 p<0.05)

Author, Country and health effects studied	Study design	Source & Chemical	Population & age	Exposure	Confounders	Results
Meeker et al., 2009 [61] America Endocrine effects	Cross sectional study specifically on PBDE concentrations in house dust and their impacts on hormone levels in men	PBDE 47,99 and 100	24 males aged 15 to 84 years	Dust from vacuum cleaner in 24 homes **GM dust concentration (ng/g)** BDE 47 = 577 BDE 99 = 809 BDE 100 = 220	Age, BMI	Dust concentrations were also strongly and inversely associated with: LH (BDE-47 P=0.004; BDE-99 p= 0.002; BDE-100 p=0.006) FSH (BDE-49, -99 p=0.02; BDE-100 p= 0.01) Dust concentrations were positively associated with: inhibin B (BDE-47 p=0.006; BDE-99 p=0.007; BDE-100 p=0.008) SHBG (BDE-47 p=0.04; BDE-99 p=0.05; BDE-100 p=0.03) free T4 (BDE-47 p=0.04; BDE-99 p=0.03; BDE-100 p=0.06)

OR = Odds ratio; adj OR = adjusted odds ratio; CI = Confidence Intervals; ETS= Environmental Tobacco Smoke; SBS = Sick Building Syndrome; OPE = organophosphate esters;

R= Correlation coefficient, Adj R= Adjusted correlation coefficient, GM = Geometric mean