

17. Consumer Products

17.1 Introduction

Consumer products may include cleaners, solvents, paints, pesticides, personal care products, or other types of products used in and around the home. These products may contain toxic or potentially toxic chemical constituents to which people may be exposed as a result of their use. Potential routes of exposure to consumer products or chemicals released from consumer products during use include ingestion, inhalation, and dermal contact. Non-users, including children, can be passively exposed to chemicals in these products. Because people spend a large amount of time indoors, the use of household chemicals in the indoor environment can be a principal source of exposure (Franklin, 2008).

Limited information is available on how the various products are used by consumers, including the many ways in which these products are handled, the frequency and duration of contact, and the measures consumers may take to minimize exposure/risk (Steenbekkers, 2001). **Chapter 17 of the *Exposure Factors Handbook*** summarizes available information regarding the amount used, frequency of use, and duration of use for various consumer products typically found in consumer households. Due to the large range and variation among consumer products and their exposure pathways, it is not feasible to recommend specific exposure values as has been done in other chapters of the *Exposure Factors Handbook*. However, Table 17-1 summarizes information about the various consumer product studies described in Chapter 17 of the *Exposure Factors Handbook*. Users are encouraged to refer to the Handbook for more detailed information about these studies.



Table 17-1. Consumer Product Use Studies Included in the *Exposure Factors Handbook*

Source	Study	Description	<i>Exposure Factors Handbook</i> Section
CTFA, 1993	Summary of the Results of Surveys of the Amount and Frequency of Use of Cosmetic Products by Women	The Cosmetic, Toiletry and Fragrance Association (CTFA) conducted three surveys on frequency of use of various cosmetic products.	17.3.1
Westat, 1987a	Household Solvent Products: A National Usage Survey	A nationwide survey was conducted to determine consumer exposure to common household products believed to contain methylene chloride or its substitutes.	17.3.2
Westat, 1987b	National Usage Survey of Household Cleaning Products	A nationwide telephone survey was conducted to gather information on cleaning activities performed in the interior of homes during the previous year; some participants were re-interviewed or asked to keep diaries of activities.	17.3.3
Westat, 1987c	National Household Survey of Interior Painters	A survey of household members who had painted the interior of the home during the last 12 months prior to the survey date; participants were asked questions relating to frequency and time spent for interior painting activities, the amount of paint used, and protective measures used, (i.e., wearing gloves, hats, and masks or keeping a window open).	17.3.4
Abt, 1992	Methylene Chloride Consumer Products Use Survey Findings	A telephone survey of nearly 5,000 households was conducted to gather data on use of paint strippers, non-automotive spray paint, and adhesive removers in order to estimate the percent of the population using these products.	17.3.5
U.S. EPA, 1996	National Human Activity Pattern Survey (NHAPS)	Data were collected on the duration and frequency of selected activities and the time spent in selected microenvironments via 24-hour diaries; data were also collected on duration and frequency of use of selected consumer products such as microwave ovens and paints.	17.3.6
Bass et al., 2001	What's Being Used at Home: A Household Pesticide Survey	A survey (one-to-one interview) was conducted to assess the use of pesticide products in homes with children; the study obtained information on what pesticides were used, where they were used, and how frequently they were used.	17.3.7
Weegels and van Veen, 2001	Variation of Consumer Contact with Household Products: A Preliminary Investigation	A survey was conducted to determine consumer exposure to common household products that are used once a day or every other day (i.e., dishwashing detergent, all-purpose cleaners, and hair styling products).	17.3.8
Loretz et al., 2005	Exposure Data for Cosmetic Products: Lipstick, Body Lotion, and Face Cream	A nationwide survey was conducted to estimate the usage (i.e., frequency of application and amount used per application) of lipstick, body lotion, and face cream in women.	17.3.9
Loretz et al., 2006	Exposure Data for Personal Care Products: Hairspray, Spray Perfume, Liquid Foundation, Shampoo, Body Wash, and Solid Antiperspirant	A nationwide survey was conducted to determine the usage (i.e., frequency of use and amount used) of hair-spray, spray perfume, liquid foundation, shampoo, body wash, and solid antiperspirant in women.	17.3.10
Hall et al., 2007	European Consumer Exposure to Cosmetic Products, a Framework for Conducting Population Exposure Assessments	A probabilistic European population model of exposure for six cosmetic products (i.e., body lotion, deodorant/antiperspirant, lipstick, facial moisturizer, shampoo, and toothpaste) was developed using market information and a controlled products use study.	17.3.11
Loretz et al., 2008	Exposure Data for Cosmetic Products: Facial Cleanser, Hair Conditioner, and Eye Shadow	Data from a study conducted in 2005 were used to estimate frequency of use and usage amount for facial cleanser, hair conditioner, and eye shadow.	17.3.12
Sathyanarayana et al., 2008	Baby Care Products: Possible Sources of Infant Phthalate Exposure	This study estimated dermal exposure to phthalates in infants via the dermal application of personal care products; products studied were baby lotion, baby powder, baby shampoo, diaper cream, and baby wipes.	17.3.13