UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
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BETHESDA, MD 20814

Memorandum

Date: May 16, 2012

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Office of Hazard Identification and Reduction

THROUGH: Kathleen Stralka, Associate Executive Director,
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SUBJECT : Children's Gasoline Burn Prevention Act of 2008 – Reported Incidents of Interactions by Children Under Five with Portable Gasoline Containers

Introduction

The Children's Gasoline Burn Prevention Act (the Act) was enacted July 17, 2008, requiring the U.S. Consumer Product Safety Commission (CPSC) to issue regulations mandating child-resistant closures on all portable fuel containers intended to hold gasoline for use by consumers ("gas cans" or "portable gasoline containers"). All portable gasoline containers manufactured for sale to consumers in the United States on or after January 17, 2009, (six months after enactment) are required to meet child-resistance requirements, as specified in the standard ASTM F2517-05 issued by ASTM international.[1] The closure on the container must prove adequately resistant to children under the age of 5 (*i.e.,* children as old as 4 years). The standard also requires that testing demonstrate a satisfactory level of accessibility by senior-age adults. By mandating closures that resist access by children under age 5, the Act seeks to reduce child hazards, including child ingestions and the risk of burns from fires and/or explosions resulting from children interacting with and accessing or inadvertently releasing the gasoline stored in gas cans.

[1] Children's Gasoline Burn Prevention Act, Pub. L. 110-278, § 2(b) (July 17, 2008).

Although the Act requires that newly manufactured gas cans be in compliance with the standard, containers already manufactured or in use prior to January 17, 2009 may continue to be used by consumers following the date of this requirement. It is expected that over time, the proportion of compliant containers in use should increase. However, due to the likelihood that consumers may continue to use containers that were manufactured prior to January 17, 2009, it is possible that some, or all, of the cases of injury or death in the post-implementation timeframe may have involved noncompliant containers.

Executive Summary

- More fatalities were associated with fires reported in the three years after implementation of the Act (2009–2011) than in the three years prior (2006-2008) or the three years before that (2003-2005).
- There is insufficient information to determine if 2009–2011 incidents involved compliant cans.
- National estimates of ingestion injuries from gasoline by children under 5 years suggest that for 1999–2010, there are about as many ingestions from portable gasoline containers as from other containers not designed to store fuel (such as soda cans, bottles, or other containers used to store fuel, despite the container not being designed for that purpose).
- For children under age 5, during the 12 years 1999–2010, there were an estimated 1,200 ingestions attributable to portable gasoline containers, an estimated 1,300 ingestions attributable to containers not intended to store fuel, and an additional estimated 3,900 ingestions of gasoline not attributable to a specific class of source or container.
- There is not currently sufficient information to discern a decrease in the number of fire incidents following the Act. Fire incident data is still being collected for the years 2009–2011. Although there are currently somewhat fewer reported fire incidents during the 2009–2011 period than in periods of similar duration prior to the Act, such may not continue to hold true when data collection is complete for the more recent period.
- There is insufficient NEISS data to report estimates of ingestions from gas cans following the effective date of the Act (January 17, 2009) for comparison with years prior. The number of *individual* cases reported does not appear to exhibit substantial change. However, estimates can be derived from data reported over a period of a decade or more; these estimates can characterize the extent of combined ingestion and nonfire exposure hazards (as existed prior to the Act), but they cannot be used to evaluate the relative effectiveness of the Act.

Incident Data Sources

Since the scope of the Act involves limiting accessibility to children under the age of 5, this memorandum addresses reported incidents associated with children under age 5 interacting with gas cans. The interaction may be accidental, such as knocking over or spilling a gas can, or intentional, such as purposely opening and pouring from or

drinking from a gas can. The scope of this memorandum is determined not by the age of the injured persons, but rather, by the age of the youngest person believed to have interacted with the gas can. For example, incidents of an adult or older child pouring or spilling gasoline on a child under age 5 are excluded, unless the child was participating or helping in the interaction with the gas can. Similarly, incidents where a child appears to have been passively burned due to interactions with gas cans by adults and/or youths (none of whom were under age 5) are excluded. In more general terms, this memorandum excludes incidents of injury for children under 5 injured inadvertently as a consequence of the actions of an adult or older children (unless that child or another child under age 5 was participating in or assisting with the interaction or play involving the gas can). Conversely, in the case of incidents with multiple victims (which generally occurs as a result of fire ignition), this memorandum includes counts of victims ages 5 and older (including adults), if the burns resulted from a fire that appears to have resulted from the interaction with a gas can in which a child under 5 was an active participant.

Incident data for this memorandum is presented in two distinct categories, depending on whether fire ignition occurred or not. Most of the nonfire incidents involve ingestion, eye contact, or skin absorption by a child interacting with the gas can. The nonfire incidents were reported exclusively through the CPSC's National Electronic Injury Surveillance System (NEISS)[2]. In contrast, most of the fire incidents were reported through sources other than NEISS, such as death certificates,[3] as well as a variety of sources that feed into the IPII[4] database (*e.g.*, news clippings, medical examiner reports, and consumer complaints). There are several NEISS cases identifying fire ignition and burns (four in the six years 2003–2008 and one in the three years 2009–2011); however, these few fire cases from NEISS are not on their own sufficient to characterize the hazard or estimate the number of injuries nationally. Thus, reports of incidents involving burns from fire (some involving multiple victims and/or fatalities) are characterized based on data collected from a variety of sources; whereas, the nonfire incidents (*e.g.*, ingestion, skin exposure) were reported exclusively based upon NEISS data—the only CPSC data source in which such nonfire incidents were found.

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[2] The National Electronic Injury Surveillance System (NEISS) is a probability sample of approximately 100 U.S. hospitals having 24-hour emergency departments (EDs) and more than six beds. Coders in each hospital code consumer product-related data from the ED record and the data is then transmitted electronically to CPSC. Because NEISS is a probability sample, each case collected represents a number of cases (the case's *weight*) of the total estimate of injuries in the U.S. Different hospitals carry different weights, based on stratification by their annual number of emergency department visits (Kessler and Schroeder, 1999).

[3] CPSC purchases death certificates from all 50 states, New York City, the District of Columbia, and some territories. Only those certificates in certain E-codes (based on the World Health Organization's International Classification of Diseases ICD-10 system) are purchased. These are then examined for product involvement before being entered into CPSC's death certificate database. The result is neither a statistical sample nor a complete count of product-related deaths, nor does it constitute a national estimate. The database provides only counts for product-related deaths from a subset of E-codes. For this reason, these counts tend to be underestimates of the actual numbers of product-related deaths. Death certificate collection from the states also takes time. As of January 10 2012, the Death Certificates database was considered 99.5% complete for 2007, 95.4% complete for 2008, 87.1% complete for 2009, 68.5% complete for 2010, and 37.9% complete for 2011.

[4] CPSC's Injury and Potential Injury Incident File (IPII) is a database containing reports of injuries or potential injuries made to the Commission. These reports come from news clips, consumer complaints received by mail or through CPSC's telephone hotline or web site, Medical Examiners and Coroners Alert Program (MECAP) reports, letters from lawyers, and similar sources. While the IPII database does not constitute a statistical sample, it can provide CPSC staff with guidance or direction in investigating potential hazards.

Findings

Fire- and Burn-Related Incidents Associated with Children Under 5 Interacting with Gas Cans

For the three-year period following implementation of the Act (2009–2011), CPSC staff is aware of seven incidents associated with fires ignited due to children interacting with or playing in the vicinity of portable gasoline containers. Four of these incidents resulted in a fatality. In the six years prior to implementation of the Act (2003–2008), the CPSC is aware of 21 fire incidents, of which only three resulted in fatalities (of one or more persons). See Table 1 on the next page for further details.

In most of the 28 fire-related incidents associated with children under 5 interacting with gas cans over the combined nine-year period (2003-2011), the child or children interacting with the container were male. Note that for one of these incidents (in 2004), the type of gas can was identified as a 5-gallon Occupational Safety and Health Administration (OSHA) safety can. The OSHA safety can is not child resistant. This is the only fire incident from the 28 reported that indicates whether the gas can was child resistant or not. Therefore, none of the reports specifically indicated that the gas can was child resistant and/or in compliance with the requirements set by the Act. The most common igniter of the gasoline was water heaters, which were involved in at least 9 of the 28 reported incidents (32%). Other igniters of the gasoline included outdoor fires, lighters, fireworks, a lawn mower, a dryer, a refrigerator, and a space heater.

Although reporting is not yet considered complete[5] for the three years (2009–2011) following implementation of the Act, this memorandum describes reported incidents prior to and after implementation of the Act. For purposes of comparison with periods of equal duration (three years), the six years prior to the Act are split into two periods of three years each (2003–2005 and 2006–2008). Note that many of the reports of burns come from news stories or other anecdotal sources; and thus, counts may be very sensitive to changes in reporting, data collection, or reporting detail.

While it may be possible for there to be a decrease in the overall number of reported fire-related incidents associated with children under 5 interacting with gas cans in the three years following the Act, the number of reported fatal incidents can already be determined not to have decreased. As noted above, CPSC staff is aware of 7 incidents in the three years (2009–2011) following the Act, which is fewer than in either of the three-year intervals prior to the Act (12 incidents in 2003–2005 and 9 incidents in 2006–2008). See Table 1. However, out of the 7 reported fire incidents in 2009-2011, 4 involved fatal injuries. Therefore, CPSC staff is already aware of more incidents resulting in a fatality in the period following the Act than in the six years prior. In the period 2003–2005, CPSC staff is aware of a single fatal incident which resulted in two deaths (a boy age 2 years and 11 months, and his grandfather age 41, who was

[5] There are sometimes substantial delays between the time an incident occurs and the time that incident is reported to CPSC. In particular death certificates collected from the various states within the U.S. sometimes refer to fatalities that occurred several years prior. Reporting for a given year is not considered complete until the proportion of months for which CPSC has received at least one death certificate from each state is sufficiently near to 100%. Currently 2008 is the most recent year with satisfactory data collection to be considered complete.

attempting to rescue him). In the period 2006–2008, CPSC staff is aware of only two separate fatal incidents, both instances involving one decedent playing with a brother who survived with severe burns. In the first incident, the decedent was age 4 (playing with fireworks with his 7-year-old brother who was critically injured); and in the other, the decedent was 5 years old (his 2-year-old brother playing with him was hospitalized). In the period 2009–2011, there were four separate incidents each resulting in a single decedent younger than 5 years of age.

Counts of reported fire incidents, the number of deceased persons, and the number of victims (whether injured or deceased) are presented in Tables 1-3 and Figures 1-3.

Table 1. Number of Reported Fire Incidents Associated with Children Younger Than Age 5 Interacting With Portable Gasoline Containers

3-Year Period	2003-2005	2006-2008	*2009-2011**	*Total**
Fatal Incidents	1	2	*4*	*7*
Nonfatal Fire Incidents	11	7	*3*	*21*
Total Fire Incidents	12	9	*7*	***28***

**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Table 2. Decedents Reported from Fires Associated with Incidents of Children Younger Than Age 5 Interacting With Portable Gasoline Containers

3-Year Period	2003-2005	2006-2008	*2009-2011**	*Total**
Decedents Younger than 5 Years	1	1	*4*	*6*
Decedents Age 5 Years or Older	1	1	*0*	*2*
Total Decedents	2	2	*4*	*8*

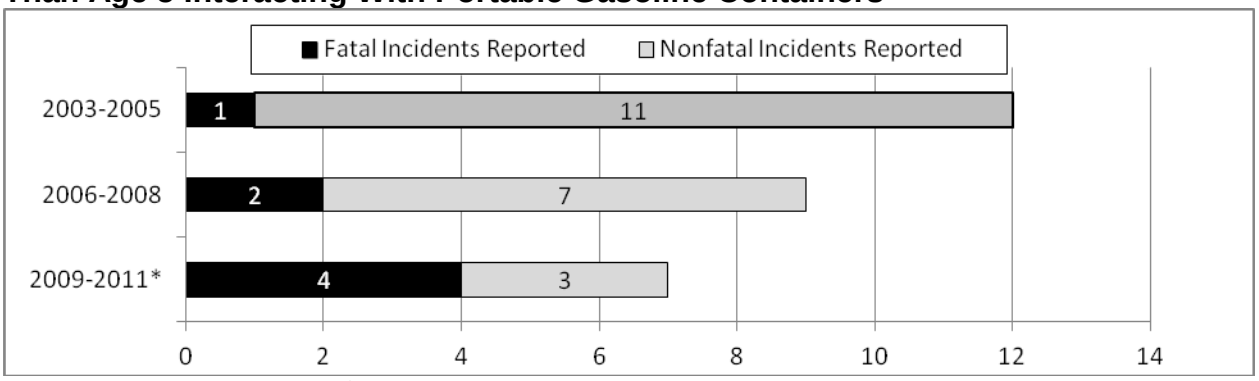
**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Table 3. Total Victims Reported Injured or Deceased from Fires Associated with Incidents of Children Younger Than Age 5 Interacting With Portable Gasoline Containers

3-Year Period	2003-2005	2006-2008	*2009-2011**	*Total**
Victims Younger than 5 Years	13 (1 dead, 12 injured)	10 (1 dead, 9 injured)	*7 (4 dead, 3 injured)*	*30 (6 dead, 24 injured)*
Victims Age 5 Years or Older	4 (1 dead, 3 injured)	8 (1 dead, 7 injured)	*4 (0 dead, 4 injured)*	*16 (2 dead, 14 injured)*
Total Victims	17 (2 dead, 15 injured)	18 (2 dead, 16 injured)	*11 (4 dead, 7 injured)*	***46** (8 dead, 38 injured)*

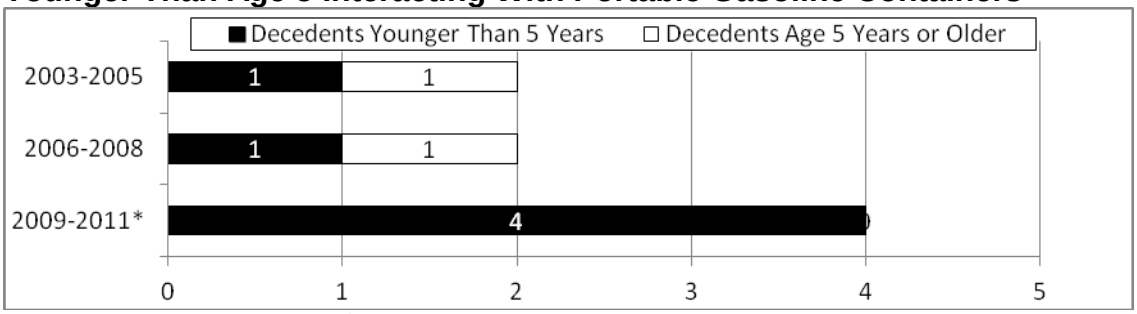
**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Figure 1. Number of Reported Fire Incidents Associated with Children Younger Than Age 5 Interacting With Portable Gasoline Containers



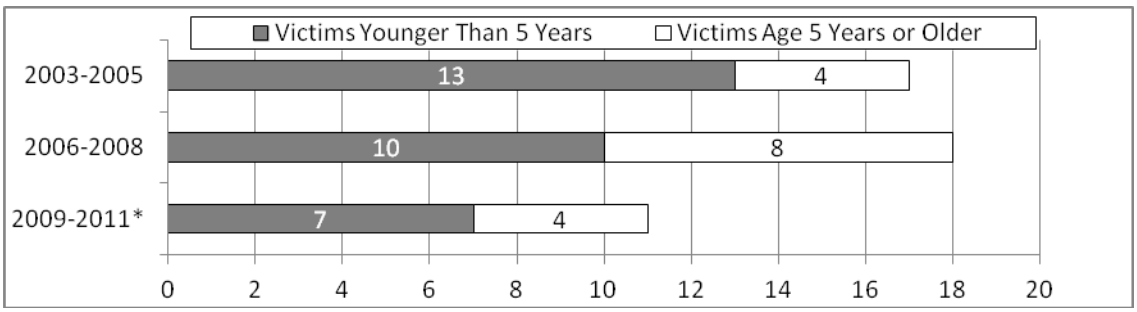
**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Figure 2. Decedents Reported from Fires Associated with Incidents of Children Younger Than Age 5 Interacting With Portable Gasoline Containers



**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Figure 3. Total Victims Reported Injured or Deceased from Fires Associated with Incidents of Children Younger Than Age 5 Interacting With Portable Gasoline Containers



**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

The 12 reported fire incidents from 2003–2005 (Table 1 and/or Figure 1) resulted in 17 injured or deceased persons (13 were younger than 5). The nine reported fire incidents from 2006–2008 resulted in 18 injured or deceased persons (10 were younger than 5). The seven reported fire incidents in the period following the Act (2009–2011), resulted in 11 injured or deceased persons (7 were younger than 5). Despite an increase in reported fatalities, the post implementation time frame from 2009-2011 exhibits fewer reported incidents and fewer reported victims than in the earlier periods. These statistics may change as the CPSC receives reports for the 2009–2011 period.

Table 4 shows the age and gender distribution for the youngest child involved in each of the 28 reported incidents between January 2003 and December 2011. The youngest age is 20 months and most of the children were male.

Table 4. Fire Incidents Associated with Children Younger Than Age 5 Interacting With Portable Gasoline Containers 2003-2011* By Age and Gender of Youngest Interacting Child

	0-19 Months	20-23 Months	2 Years	3 Years	4 Years	All Ages Under 5
Male	0	4	9	5	7	25
Female	0	0	1	2	0	3
Total	0	4	10	7	7	28

**Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012*

Gasoline Exposures (Ingestions, Skin Exposure, and/or Eye Exposure) Without Fire or Thermal Burns Associated with Children Under 5 Interacting with Gas Cans

The nonfire incident data consists mostly of reports of ingestion and CPSC staff can project national estimates for ingestions. However there are limitations on how these estimates can be made. This includes the need for the estimate to span a period of about a decade or more in order to have enough data to support the national estimate; this limitation precludes an ability therefore, to report an estimate specific to the injuries following implementation of the Act in early 2009. Although the analyses presented in this memorandum were prepared before NEISS data for 2011 was finalized on March 29, 2012, even with the inclusion of finalized 2011 NEISS data there is still not enough data to resolve this limitation. Thus prior to addressing estimates of ingestion injuries, the sample counts for periods before and after the implementation of the Act are addressed. Note that although 2009-2011 is regarded as the post implementation time frame, the child resistance requirement was not technically considered to be in effect until after January 17, 2009 and one of the cases in this period occurred on January 8, 2009.

For the three years prior to the implementation of the Act (2006-2008), the NEISS sample contains 9 cases (8 ingestions, 1 eye and skin contact) and there are 11 cases in the three years after the Act (8 ingestions, 3 eye and/or skin contact). So, there are 8 ingestions reported in the three years prior to the Act and 8 ingestions reported in the three years after the Act, although there are 2 more cases of skin/eye exposure for the latter period in our sample data. For the three years 2003-2005, there were 16 cases (13 ingestions, 3 eye and/or skin contact). As the NEISS sample may exhibit some random variation, it does not appear that any changes can be established from this limited quantity of data.

Table 5. Nonfire Related Gasoline Exposure Cases in NEISS Data Associated with Children Younger Than Age 5 Interacting with Portable Gasoline Container over 3 Year Periods

3 Year Period	2003-2005	2006-2008	2009-2011	Total
Ingestion Cases	13	8	8	29
Eye and/or Skin Contact (without Ingestion)	3	1	3	7
Total Nonfire Related Gasoline Exposure Cases	16	9	11	36

*Source National Electronic Injury Surveillance System (NEISS), **May** 2012*

For the 10 year period prior to the Act (1999-2008), there are 46 total cases (38 ingestions, 8 eye and/or skin contact). Within this period, the annual average is therefore 4.6 cases (3.8 ingestions, 0.8 eye and/or skin contact). For comparison, the

three years following enactment (2009-2011) exhibit an annual average of 3.7 cases per year (2.7 ingestions, and 1 eye and/or skin contact). With such small quantities, the change is not sufficient to rule out random variation in the NEISS sample. Therefore no trend or change can be demonstrated on the basis of this comparison.

Although there is currently no meaningful comparison regarding the post implementation timeframe, the expansion of the timeframe back to 1999 does allow generation of some estimates characterizing the gasoline exposure hazard (without any implications regarding the effectiveness of the Act). However, it should be understood that such estimates may be conservative insofar as cases in the sample that report gasoline ingestion without reference to a gas can (or portable gasoline container) do not contribute to the estimate. Thus, the estimates projected from cases specifying gas cans may err on the conservative side.[6]

The 46 previously mentioned cases over the entire 10 year period 1999-2008 represent an estimated 1,300 emergency department (ED) treated injuries attributable to children interacting with gas cans injured from either ingestion, skin absorption, or eye contact (with a 95% confidence interval from 700 to 1,800 ED treated injuries). For the 1999-2008 time period, the sample size is too small to report estimates for ingestion separately from skin and/or eye contact.

To focus on a national estimate for ingestions only and exclude eye and skin contact from gas cans, CPSC staff must further expand the timeframe. CPSC staff can report an estimate specific to ingestion for the twelve year timeframe 1999-2010. Note that NEISS data for 2011 was not finalized until March 29, 2012 after the analysis supporting this memorandum had been completed. Given that three years (*i.e.* 2009-2011) is still too short to provide enough data for a reliable estimate, inclusion of 2011 data would not have enabled staff to report a national estimate for the period after the 2009 implementation of the Act. Therefore the exclusion of 2011 data from the estimates does not appear to have had much impact on the findings.

For children under age 5 in the twelve year period 1999-2010, there are 44 cases reported in NEISS of ingestion from a child interacting with a gas can (or any portable gasoline container). See Table 6. This represents an estimated 1,200 ED treated ingestion injuries from gas cans (with a 95% confidence interval from 600 to 1,800 ED treated injuries). For comparison there are 43 cases specifying a child under 5 ingesting gasoline stored in a beverage container, soda can, bottle, jar, or drinking glass which represents an estimated 1,500 ED treated ingestion injuries from such containers for the same twelve year time period (with a 95% confidence interval from 800 to 2,200 ED treated injuries). See Table 7.

[6] Note that there also exist reasons to believe the estimate could err on the liberal side. A few of the cases counted as gas cans for this assessment did not specify the gas can product code, but are regarded as such for this analysis on the basis of NEISS comments. Secondly, it's possible that a NEISS record listing the gas can product might have been in actuality another kind of container such as a soda can as was the case with one incident in 2004. That case of ingestion was originally recorded in NEISS with the description "INGESTED GAS FROM CONTAINER OF GASOLINE" using the gas can product code, but the victim's family indicated upon a follow-up interview that the gasoline was stored in a soft drink container. Although this particular case is not counted in this report as a gasoline container, staff is unable to rule out the possibility of other similar misclassifications (i.e., other incidents misclassified as portable gasoline containers when in fact the container was a different type).

Table 6. Ingestion Cases Associated with Portable Gasoline Containers Treated in NEISS Emergency Departments 1999-2010 By Age and Gender for Children Ages Under 5

	11 months	12 months	13 months	14 months	15 months	16 months	17 months	18 months	19 months	20 months	21 months	22 months	23 months	2 Years	3 Years	4 Years	All Ages Under 5
Male	1	1				2	2	1		1	3		1	16	2	4	34
Female										1	1	1		4	2	1	10
Total	1	1	0	0	0	2	2	1	0	2	4	1	1	20	4	5	44

Source National Electronic Injury Surveillance System (NEISS), January 2012.
Excludes cases of skin or eye contact for which no ingestion was reported.

Nonfire Gasoline Ingestions Not Restricted To Gas Cans

Expanding our focus beyond gasoline cans, from 1999-2010 there are 215 cases of gasoline ingestions by children under 5 (for only some of these cases was the source reported as a gas can). See Table 7 below. Many cases report ingestion of gasoline without mention of a container. Out of these 215 cases, only 44 indicated a portable gasoline container (a gas can), while 43 specified gasoline storage within containers not designed for such use (*i.e.*, soda cans, bottles, jars, drinking glasses, and other beverage containers). A few of the remaining 128 indicated various miscellaneous sources for the gasoline, but most described gasoline ingestion without reference to any source from where that gasoline came (*i.e.*, without any indication to whether there may have been an interaction with a gas can).

Table 7. Gasoline Ingestions for Children Younger Than Age 5 1999-2010
(Does Not Include Skin or Eye Exposures without Ingestion)

	Cases in Sample for 1999-2010	Estimate of ED Treated Injuries for 1999-2010
Attributable to Portable Gasoline Containers ("gas cans")	44	1,200
Attributable to Beverage, Food, or Other Non Fuel Containers Used to Store Gasoline	43	1,500
No Portable Container Specified as a Source for the Gasoline	128	3,900
Total	215	6,600

Source National Electronic Injury Surveillance System (NEISS), January 2012

Of the remaining 128 cases of gasoline ingestion a few indicate alternative sources for the ingested gasoline; and not all necessarily involve the child interacting directly with a source of gasoline. For example, there are several incidents of children ingesting gasoline that sprayed on them due to the actions of an adult, such as while "pumping the gas" for an automobile at a gas station. Some incidents involve other miscellaneous sources of gasoline, but for most of the 128 cases, there is no container identified as a source for the gasoline. The 128 cases represent an estimated 3,900 additional ingestion injuries. For some proportion of these cases, the gasoline may have come from a gasoline can, but such was not reported. None are included in the gas can ingestion estimate. For that reason, it may be the case that CPSC staff's estimate is conservative in projecting 1,200 gas can ingestion injuries for children under 5 from 1999-2010. For all gasoline ingestions (regardless of source) by children under 5 the total 215 cases represent an estimated 6,600 ED treated injuries over the 12 years.

Appendix

Tables A6-A10 in the pages that follow present individual incidents reported to CPSC for which staff believes children under age 5 interacted with gas cans**.** These include all the aforementioned cases supporting the statistics cited in this report, with the exception of those cases that couldn't be attributed to child interactions with portable gasoline containers. In other words these tables do not list the 43 cases of ingestion attributable to beverage, food, or other non-fuel containers used to store gasoline or the 128 cases of gasoline ingestions for which no portable container is specified as a source for the gasoline.

The first five tables (A1-A5) and the last table (A11) define codes listed in these incident tables. The first table of incidents (A6) lists 28 fire related incidents identified from 2003-2011. Some of the incidents in this table were reported by multiple sources and different narrative summaries for each report are listed as applicable. The remaining incident tables A7, A8, A9, A10 involve nonfire incidents and all were reported to CPSC only once (through NEISS). Table A6 lists only the ingestion incidents for 1999-2010, followed by Table A8 which lists the remaining gasoline exposure injuries for 1999-2010 (*i.e.*, exposure to gasoline by the eye and/or skin). As data from the year 2011 was not final at the time this report was prepared and therefore not used in the estimates for this memo, Table A9 separates out the 2011 incidents not related to fires (*i.e.*, ingestion, skin, and eye exposure). And finally Table A10 for completeness lists out cases of children injured from interactions with a gas can in the form of bumping into or falling onto or colliding with a portable gasoline container without any indication of exposure to the gasoline stored inside.

Table A1. Product Codes Screened* for This Assessment (prod1 or prod2)

prod1, prod2	Description
0910	Gasoline
0980	Fuel storage tanks (excluding propane, LP and butane tanks)
0981	**Gasoline cans**

*To ensure thoroughness, records listing any of the above product codes in either the prod1 or prod2 fields were screened for this assessment; however the product code 0981 "Gasoline cans" is the most indicative of portable gasoline containers. For other product codes that happened to be listed among the cases identified in this report see the last table A11.

Table A2. Body Part Codes Observed* (bdpt)

bdpt	Description
31	Trunk, upper (not including shoulders)
75	Head
76	Face (including eyelid, eye area and nose)
77	Eyeball
82	Hand
85	All parts of body (more than 50% of body)

Table A3. Diagnosis Codes Observed (diag)

diag	Description
49	Chemical burn (incl. caustic burns)
53	Contusions, abrasions
59	Laceration
68	Poisoning *
71	Other/Not Stated
74	Dermatitis, conjunctivitis

* For poisoning cases, body part code should always be 85 (all parts of body).

Table A4. Dispositions Codes Observed (disp)

disp	Description
1	Treated and released, or examined and released without treatment.
2	Treated and transferred to another hospital
4	Treated and admitted for hospitalization (within the same facility)
5	Held for observation (includes admitted for observation)
6	Left without being seen/Left against medical advice
8	Fatality, including DOA, died in the ED
9	Not recorded

Table A5. Definitions of Headers Used in the Incident Tables That Follow

nek	This is a unique identifier for each record in NEISS
dt_trmt	Date of treatment of injury in the NEISS emergency department. The tables below are presented in month/date/year format.
prod1	Indicates Product Code in NEISS associated with incident. For example “910” indicates gasoline and “981” indicates gas can.
prod2	Also indicates Product code in NEISS associated with the incident In the event there are two products involved.
narrative	These comments are the only textual description of the incident or injury as recorded in NEISS.
bdpt	This refers to the body part most severely injured. For example "77" indicates the eyeballs were the injured (or the most injured) body part.
diag	This refers to the diagnosis of the most severe injury. For example “66” indicates poisoning.
disp	This refers to the disposition of the victim, for example "1" indicates the victim was treated and released and "4" indicates hospitalization.

Table A6. Reports to CPSC of Fire Incidents Associated with Children Younger Than Age 5 Interacting with Portable Gasoline Containers 2003-2011[7]

inc	Document or IDI Number(s)	City and State	Date	Age/Sex of Victim(s)	Narrative(s) for Each Report of Incident	disp
1	030413HEP8700	[redacted]	4/12/2003	4 YR M	THE 4-YEAR-OLD MALE VICTIM WAS DIAGNOSED WITH 1ST AND 2ND BURNS TO HIS LEGS, LEFT FOOT, FACE, RIGHT HAND AND ARM WHEN HE TRIED TO RETRIEVE A GASOLINE CAN WHICH WAS THROWN ON. TRASH FIRE COALS (THOUGHT TO BE OUT AT THE TIME). THE CAN WAS THROWN BY A 2-YEAR-OLD CHILD AND IT EXPLODED BURNING THE VICTIM. HE WAS TAKEN TO THE ED WHERE HE WAS TREATED AND TRANSFERRED. NO F.D. INVOLVEMENT.	2
	30424286				WHILE BURNING LEAVES GASOLINE CAN EXPLODED AND SUSTAINED BURNS TO LEGS FACE AND HANDS WAS TRANSFERRED FIRE DEPT DID NOT ATTEND	
2	040701HCC1818	[redacted]	8/27/2003	**2 YR M** *&* ***41 YR M***	A 41-YEAR-OLD MALE AND A 2-YEAR, 11-MONTH-OLD MALE DIED IN THIS FIRE TO A GARAGE ATTACHED TO A SINGLE-FAMILY HOME. THE FIRE DEPARTMENT INDICATED THAT THE 2-YEAR, 11-MONTH-OLD MALE SPILLED GASOLINE IN THE GARAGE AND A SPARK FROM A REFRIGERATOR/FREEZER, IN THE GARAGE, IGNITED THE GASOLINE. THE 41-YEAR-OLD MALE WENT TO RESCUE HIM AND DIED IN THE EXPLOSION/FIRE. DAMAGE: PROPERTY - $25,000; CONTENTS - $50,000.	**8**
	X03B5490A				A BOY, AGE 2-1/2, DIED OF SMOKE INHALATION IN A HOUSE FIRE. THE FIRE STARTED WHEN CHILDREN WERE PLAYING WITH GASOLINE IN AN ATTACHED GARAGE AND NEAR A GAS HEATER. T62718	
3	G03A0023A	[redacted]	9/7/2003	4 YR M *& 5 YR M & 9 YR M*	THREE BOYS, AGES 4, 5, AND 9, WERE HOSPITALIZED FOR BURNS RECEIVED AFTER A GAS CAN EXPLODED IN A BACKYARD.	4
4	031113HCC1159 B03B0010A	[redacted]	9/16/2003	3 YR M	A 3-YEAR-OLD MALE SUFFERED SECOND- AND THIRD-DEGREE BURNS TO 60% OF THE FRONT OF HIS BODY WHEN GAS FROM A TIPPED OVER GAS CAN CAME INTO CONTACT WITH THE BURNER OF A GAS HOT WATER HEATER LOCATED IN AN ATTACHED GARAGE, CAUSING AN EXPLOSION. THE VICTIM WAS ADMITTED TO A BURN UNIT WHERE HE RECEIVED TREATMENT, INCLUDING MULTIPLE SKIN GRAFTS. THE VICTIM WAS RELEASED AFTER 72 DAYS. PROPERTY DAMAGE WAS ESTIMATED TO BE OVER $20,000.00.	4
5	031117HCC1165	[redacted]	11/13/2003	4 YR M	A 4-YEAR-OLD MALE SUFFERED SECOND- AND THIRD-DEGREE BURNS TO HIS FACE AND LEFT HAND TOTALING 2 1/2% WHEN HIS 12-YEAR-OLD BROTHER AND HE ATTEMPTED TO IGNITE SOME STICKS WITH GASOLINE IN THEIR BACK YARD. THE GASOLINE VAPORS IGNITED, CAUSING THE INJURY AND SINGEING THE NYLON-TYPE SWEAT PANTS THE 4-YEAR-OLD WAS WEARING. HE IS EXPECTED MAKE A FULL RECOVERY.	4
	B03B0017A				A BOY, AGE 4, & HIS OLDER BROTHER WERE TRYING TO MAKE A CAMPFIRE IN THEIR PLAYHOUSE. HE OR HIS BROTHER THREW GASOLINE ON THE FIRE OR A NEARBY GAS CAN EXPLODED WHEN HIS NYLON WIND PANTS IGNITED. HE SUFFERED BURN INJURY & WAS HOSPITALIZED.	

[7] Multiple reports of the same incident are grouped under the same incident number in the first column. Reporting is not considered complete for the years in the period 2009-2011. Relative to the Age/Sex of victims who survived burn injury, Age/Sex is enlarged for victim's who died.

6	040517HCC2521 B0450241A	[redacted]	4/7/2004	3 YR F	THE GRANDMOTHER OF THE 3-YEAR-OLD FEMALE VICTIM STARTED A FIRE IN A 22-GALLON BARREL TO BURN SOME BRANCHES IN THE BACKYARD. SHE USED GASOLINE THAT WAS STORED IN A GASOLINE CAN. SHE BELIEVED THE FIRE WAS OUT. LATER, THE VICTIM WAS FOUND IN THE BACKYARD STANDING NEAR THE BARREL WITH HER CLOTHES ON FIRE. SHE WAS PUSHED DOWN & THE FIRE WAS EXTINGUISHED. FIRE OFFICIALS SURMISED THE VICTIM PICKED UP THE GAS CAN, SPILLING SOME ON HER CLOTHING, AND THEN LEANED OVER THE BARREL CATCHING HER CLOTHING ON FIRE. SHE SUSTAINED 2ND DEGREE BURNS TO ABDOMEN AREA WITH 5% BODY SURFACE BURN.	4
7	040806HWE5004	[redacted]	7/22/2004	2 YR M	A 2-YEAR-OLD BOY AND HIS DOG WERE PLAYING IN A LAUNDRY ROOM. THEY KNOCKED OVER A GASOLINE CAN, AND GASOLINE SPILLED OUT OF THE CAN. GASOLINE VAPORS MIGRATED OVER TOWARD THE NATURAL GAS HOT WATER HEATER THAT WAS LOCATED IN THE CORNER. THE VAPORS WERE IGNITED BY THE PILOT LIGHT ON THE HOT WATER HEATER. THE CHILD SUFFERED SECOND AND THIRD DEGREE BURNS AND THE HOUSE CAUGHT ON FIRE.	4
	F0485002A				A BOY, AGE 2, WAS HOSPITALIZED FOR BURN INJURY RECEIVED AFTER A SEALED GAS CAN WAS TIPPED OVER AND VAPORS WERE IGNITED BY A PILOT LIGHT IN A DETACHED LAUNDRY ROOM AT A HOME.	
	F0480075A				A BOY, AGE 2, WAS HOSPITALIZED FOR BURNS WHEN HE WAS LEFT UNATTENDED IN A DETACHED LAUNDRY ROOM BY HIS MOTHER. HE TIPPED OVER A SEALED GASOLINE CAN, RELEASING FLAMMABLE VAPORS THAT WERE IGNITED BY A PILOT LIGHT.	
8	040930HEP8214	[redacted]	7/31/2004	2 YR M	THE 2- YR.-OLD MALE VICTIM SUSTAINED 2ND DEGREE BURNS TO HIS LEFT HAND WHEN A LAWN MOWER AND A GAS CAN IN THE LAUNDRY ROOM AT HOME CAUGHT ON FIRE. THE VICTIM WAS TAKEN TO THE HOSPITAL WHERE HE WAS TREATED AND ADMITTED OVERNIGHT.	4
	41000689				MOM FOUND PT AND SIBLING RUNNING FROM LAUNDRY ROOM, GAS CAN AND LAWN MOWER IN FLAMES, PLUGGING IN ELECTRIC CORDS AT HOME; 2ND DG HAND, FD NOT	
9	F0570087A	[redacted]	6/4/2005	4 YR M & 4 YR M	TWO BOYS, BOTH AGE 4, WERE HOSPITALIZED FOR BURNS AFTER GASOLINE IGNITED BY SPARK FROM METAL SLIDE. SOME OF GAS ON THEIR CLOTHES & A SLIDE THAT WAS FROM A CAN OF GAS THAT WAS LEFT OUTSIDE. WHEN THEY WENT DOWN THE SLIDE, STATIC ELECTRICITY SPARKED THE FLAMES.	4
10	050920HCC2137 B0590583A	[redacted]	9/14/2005	2 YR M	A 2-YEAR-OLD MALE RECEIVED 2ND AND 3RD DEGREE BURNS TO 47% OF HIS BODY WHEN A GASOLINE CONTAINER EXPLODED IN THE GARAGE WHERE THE WATER HEATER IS LOCATED. THE FAMILY DID NOT HAVE A SMOKE DETECTOR. LOSS WAS ESTIMATED TO BE APPROXIMATELY $200 TO THE STRUCTURE.	4

11	B05A0600A	[redacted]	9/30/2005	2 YR F	A GAS CAN THAT WAS KNOCKED OVER IN A UTILITY ROOM WAS IGNITED BY A WATER HEATER & CAUSED A FIRE. A 2-1/2-YEAR-OLD GIRL WAS HOSPITALIZED WITH BURN INJURIES AFTER HER SWEATPANTS & SHIRT CAUGHT FIRE.	4
12	N0610730A	[redacted]	12/18/2005	2 YR M *& 5 YR M*	A 2-YEAR-OLD BOY WAS HOSPITALIZED IN CRITICAL CONDITION AFTER HIS STEPBROTHER, AGE 5, SET A FIRE WITH A LIGHTER & GASOLINE THAT CAUGHT THE YOUNGER BOY'S SHIRT ON FIRE & BURNED HIM. THE 5-YEAR-OLD BOY WAS TREATED FOR SMOKE INHALATION & RELEASED.	4
	N05C0474A				A 2-YEAR-OLD BOY RECEIVED SEVERE BURN INJURIES & WAS HOSPITALIZED AFTER HIS 5-YEAR-OLD BROTHER ACCIDENTALLY SET HIM ON FIRE. THE 5-YEAR-OLD WAS PLAYING WITH GASOLINE & A LIGHTER, WHICH SPARKED THE FIRE. THE VICTIM'S SHIRT CAUGHT ON FIRE FIRST.	
13	'N0670606A *(Terminated IDI 060717CCC3681)*	[redacted]	7/4/2006	**4 YR M** *& 7 YR M & father & mother*	A BOY, AGE 4, DIED & HIS BROTHER, AGE 7, WAS BURNED AND IN CRITICAL CONDITION AFTER FIREWORKS LANDED IN A GASOLINE TANK AND CAUSED IT TO EXPLODE. THEIR PARENTS ALSO SUFFERED FROM LESS SEVERE BURN INJURIES.	**8**
	0620014137	[redacted]			PLAYING WITH FIREWORKS - EXTENSIVE THERMAL INJURIES; FIREWORKS PLACED INTO FUEL TANK - AUTOPSY NO.	
14	N0680628A	[redacted]	8/26/2006	3 YR F	A 3-YEAR-OLD WAS INJURED IN HOUSE EXPLOSION. THE EXPLOSION IGNITED THE BACK OF THE HOUSE, WHERE THE GIRL WAS PLAYING. THE FIRE STARTED AFTER A GAS CAN ON THE BACK STAIRCASE SPILLED. FUMES THAT WERE IGNITED BY A HOT WATER TANK.	1
15	N06C0148A	[redacted]	11/25/2006	3 YR M	A BOY, AGE 3, WAS SERIOUSLY BURNED WHEN A SPARK FROM CLOTHES DRYER IGNITED GASOLINE IN THE GARAGE OF HIS HOME. HE WAS HOSPITALIZED.	4
16	N0720403A	[redacted]	2/12/2007	3 YR M *& 7 YR M*	A 3-YEAR-OLD BOY AND A 7-YEAR-OLD BOY WERE HOSPITALIZED WHEN THE LIGHTER AND GAS CAN THEY WERE PLAYING WITH IGNITED.	4
17	X0750412A	[redacted]	4/15/2007	3 YR M	A BOY, AGE 3, WAS INJURED WHILE PLAYING WITH A GAS CAN AND POURED GASOLINE ON HIS JEANS. THE SOURCE OF IGNITION POSSIBLY A CIGARETTE BUTT THAT WAS SMOLDERING ON THE GROUND.	1
18	71043220	[redacted]	Treated 10/18/2007	22 MO M	CHILD FOUND IN ROOM WITH GAS CAN THAT HAD LEAKED AND CAUGHT FIRE, UNSURE HOW FIRE STARTED. PARTIAL THICKNESS BURNS 40% BSA (FIRE DPT AT SCENE).	2
19	80656110	[redacted]	Treated 6/24/2008	22 MO M	MOM SAW BURNS ON LOWER LEGS AND ANKLES, GAS CAN BURNING OUTSIDE, NO FIRE DEPART ATTENDED, DX: 1ST-, 2ND-DEGREE BURNS, BIL LOWER LEGS, ANKLES.	1

20	N0880840A	[redacted]	8/21/2008	2 YR M *&* ***5 YR M*** *& mother*	A 5-YEAR-OLD BOY DIED IN A HOUSE FIRE. A 2-YEAR-OLD BOY AND HIS MOTHER WERE HOSPITALIZED. THE FIRE STARTED WHEN FUMES FROM A SPILLED GASOLINE CAN IGNITED THE PILOT LIGHT ON A BASEMENT GAS WATER HEATER.	**8**
	U0892911A	[redacted]	8/27/2008 (according to U0892911A)		A 5-YEAR-OLD BOY DIED & A 2-YEAR-OLD BOY WAS HOSPITALIZED WITH SERIOUS BURNS AFTER A HOUSE FIRE. THE 2 CHILDREN FOUND CONTAINERS OF GASOLINE UNDER STAIRS & SPILLED THE GASOLINE. THE FUEL'S FUMES WERE IGNITED BY THE PILOT LIGHT OF THE HOME'S GAS WATER HEATER.	
21	N08A0298A	[redacted]	10/20/2008	20 MO M & 2 YR F *& mother* *& father*	20-MONTH-OLD BOY & 2-YEAR-OLD SISTER WERE HOSPITALIZED AFTER BEING RESCUED FROM A FIRE. THEY WERE PLAYING IN THE BASEMENT, & BROUGHT THE GAS CAN DOWN FROM A SHELF & SPILLED IT ON CLOTHES IN FRONT OF THE WATER HEATER. TWO **ADULTS** SUSTAINED **MINOR INJURIES**.	4
22	N0960450A	[redacted]	6/7/2009	2 YR M	A 2-YEAR-OLD BOY WAS HOSPITALIZED AFTER SUFFERING BURNS TO HIS LEGS AND FEET IN A HOUSE FIRE. A WATER HEATER IN THE BASEMENT IGNITED FUMES FROM A GASOLINE CAN SITTING NEAR BY.	4
23	Y0997134A	[redacted]	7/31/2009	4 YR M	LAWSUIT CLAIMS PROPERTY DAMAGE & DEATH OF A 4-YEAR-OLD BOY WHEN HE POURED GASOLINE OUT OF THE CONTAINER & IT IGNITED DUE TO AN OPEN GAS FLAME FROM THE WATER HEATER. DAMAGES CLAIMED: DEATH OF THE CHILD & FIRE DAMAGE TO THE APARTMENT. PRODUCT: GAS/FUEL CAN	**8**
24	Y0987011A	[redacted]	Received by CPSC 8/17/2009	2 YR M *& father*	PLAINTIFF ALLEGES HE AND HIS 2-YEAR-OLD SON WERE BURNED BECAUSE THE CHILD WAS ABLE TO OPEN THIS GAS CAN FILLED WITH GAS, WHICH RESULTED IN THE CAN EXPLODING.	9
25	100621HCC3784	[redacted]	3/24/2010	**21 MO M** *& father*	A 21-MONTH-OLD MALE DIED AS A RESULT OF THERMAL BURNS THAT HE SUFFERED OVER ABOUT 60% OF HIS BODY IN A GARAGE FIRE. THE GARAGE FIRE IS BELIEVED TO HAVE BEEN STARTED WHEN AN OLDER SPACE HEATER SOMEHOW CAME IN CONTACT WITH GASOLINE OR GASOLINE VAPORS IN THE GARAGE. THE TODDLER'S FATHER WAS ALSO BURNED IN THE INCIDENT BUT RECOVERED FROM HIS INJURIES. THERE WERE NO SMOKE ALARMS IN THE GARAGE AREA, AND CIRCUIT BREAKERS DID EVENTUALLY TRIP AS A RESULT OF THIS EXTENSIVE FIRE. THE BURNED SIDE OF THE DUPLEX WAS DECLARED A COMPLETE LOSS.	**8**
	X1050570A				2-YOM & HIS FATHER WERE BOTH BURNED WHEN THE FAMILY DOG APPARENTLY KNOCKED A CAN OF GASOLINE INTO A GARAGE SPACE HEATER. THE GASOLINE EXPLODED, SETTING THE GARAGE ON FIRE. THE BOY DIED FROM SUSTAINED IN INJURIES.	
	X1080307A				21-MOM DECEDENT SUSTAINED 60% THERMAL BURNS AFTER GASOLINE AND/OR VAPORS FROM A GASOLINE CONTAINER CAME IN CONTACT WITH AN OPERATING SPACE HEATER IN THE GARAGE CAUSING AN EXPLOSION AND FIRE. CAUSE OF DEATH: SEPTIC SHOCK D/T ACUTE RENAL FAILURE. 10-02237	

26	X1090163A	[redacted]	4/19/2010	**4 YR M**	4-YOM DIED IN THE BASEMENT FIRE IN HIS HOME. TWO CANS OF GASOLINE MOVED FROM THE GARAGE MAY HAVE CAUSED THE FIRE. CC10-01108	**8**
27	X11B1157A	[redacted]	7/9/2011	**2 YR M** *& 5 YR F & mother*	2-YOM DIED IN A FIRE. HIS MOTHER & 5-YOF WERE TRANSPORTED BY AIR TO BURN UNIT. FIRE WAS CAUSED BY A CAN OF GASOLINE. DECEDENT GRABBED IT & POSSIBLY SPILLING SOME OF GASOLINE & FUMES WERE IGNITED BY PILOT LIGHT ON THE WATER HEATER.	**8**
	X11B1147A				A 2-YOM CHILD DIED IN A FLASH FIRE & EXPLOSION APPARENTLY SET OFF WHEN THE VICTIM EITHER SPILLED A GASOLINE CAN OR FUMES FROM THE CAN REACHED A NEARBY HOT WATER HEATER. HIS MOTHER & A 5-YOF CHILD ALSO WERE INJURED IN THE FIRE & ARE IN STABLE CONDITION AT HOSPITAL.	
	X11B1132A				2-YOM DECEDENT WAS TRAPPED INSIDE RESIDENCE. HIS MOTHER WHO SUFFERED BURNS TO FACE & SMOKE INHALATION & 5-YOF WHO WAS TREATED FOR SMOKE INHALATION WERE TRANSPORTED BY AIR TO HOSPITAL. FIRE WAS CAUSED BY CONTAINER OF GASOLINE. FUMES WERE IGNITED BY WATER HEATER PILOT LIGHT.	
28	111022650	[redacted]	Treated 9/15/2011	3 YR M	3-YOM AT BONFIRE WHEN ANOTHER KID THREW GAS CAN INTO FIRE, FIRE EXPLODED , AT HOME, NO FIRE DEPARTMENT; 1ST/2ND DEGREE FACE/EAR BURN.	1

Reporting is not considered complete for the years in the period 2009-2011. Sources Injury and Potential Injury Incident File (IPII), Death Certificate File (DTHS), National Electronic Injury Surveillance System (NEISS), and In-Depth Investigation File (INDP), January 2012

Table A7. Gasoline Ingestion Injuries Attributed to Children Younger than 5 Interacting with Portable Gasoline Containers 1999–2010

count	nek	dt_trmt	Age/Sex	Narrative	disp	bdpt	diag	prod 1	prod 2
1	990214494	2/9/1999	18 MO M	PT POSSIBLY INGESTED GASOLINE, CAN OF GASOLINE WAS POURED OVER P TS HEAD. D: ACCIDENTAL INGESTION OF GASOLINE.	1	85	68	910	***1141***
2	990221531	2/16/1999	23 MO M	23 MONTH MALE INGESTED GASOLINE FROM CAN IN YARD. GOT GAS ON CLOTHES.	1	85	68	910	**981**
3	990224066	2/22/1999	17 MO M	PT DRANKED GASOLINE OUT OF CAN IN THE YARD. MOTHER NOT SURE HOW MUCH CONSUMED.	1	85	68	910	
4	990713382	7/5/1999	2 YR M	2 Y.O. W MALE W/POISONING. DAD SAW PT PUT GAS CAN W/GAS IN IT UP T O HIS MOUTH & DRINK IT. E8621	1	85	68	910	**981**
5	990835055	7/15/1999	2 YR M	PT WITH DOWN'S SYNDROME, MOM FOUND HIM SITTING NEAR GAS CAN REEKIN G OF GASOLINE DX: POSSIBLE GASOLINE INGESTION	1	85	68	910	**981**

6	990928971	9/22/1999	2 YR M	PT'S SIBLING REPORTED THAT PT "DRANK OIL" PARENTS CHECKED AND FOUN D GAS CAN WITH OPEN NOZZLE-PT COUGHING. D: GASOLINE INGESTION.	4	85	68	**981**	1414
7	414147	4/11/2000	3 YR M	POSSIBLE GASOLINE INGESTION-FOUND HIM IN GARAGE WITH A GASOLINE CA N-AND CAMPLAINED OF STOMACH PAIN-NO SYMPTOMS	1	85	68	910	**981**
8	616700	5/20/2000	22 MO F	DRANK MOUTH FULL OF GASOLINE FROM CONTAINER ACCIDENTAL GASOLINE AT HOME. INGESTION	2	85	68	910	***1141***
9	703072	6/2/2000	4 YR M	PT WAS SEEN SUCKING ON SPOUT OF GAS CAN & MAY HAVE SWALLOWED GAS. DX: HYPOXEMIA, GAS INGESTION W/PROB ASPIRATION.	4	85	68	910	**981**
10	630674	6/15/2000	4 YR M	= 4YOM OPENED GAS CONTAINER W/GAS ON PICNIC TABLE SPILLED INTO FACE DX ACUTE CHEMICAL EXPOSURE GASOLINE	1	85	68	910	4057
11	10234232	2/17/2001	17 MO M	MOM FOUND CONTAINER OF GAS, PT MAY HAVE DRINKEN SOME, POSSIBLE ING ESTION	1	85	68	***1141***	910
12	10535117	5/11/2001	2 YR M	POURED GASOLINE ON FACE-GOT IN EYES,CHOKED	1	85	68	910	**981**
13	10707908	6/19/2001	20 MO M	PARENTS STATE PT BEGAN TO COUGH & GAG - THEY NOTICED GAS CAN WAS I N FRONT OF PT - UNSURE IF PT DRANK ANY. D: DOUBT ING, CLINICALLY STABL	1	85	68	**981**	910
14	10738531	6/20/2001	2 YR M	POSSIBLE GASOLINE INGESTION/2YOWM MAY HAVE INGESTED GAS APPROX 20 MIN AGO. MOTHER SAW PT W/GAS CAN & GAS ON HANDS.	1	85	68	**981**	
15	20428955	4/13/2002	3 YR F	PT SUCKED SMALL AMOUNT OF GAS FROM A A 5 GALLON CAN COUGHED	1	85	68	910	**981**
16	20614096	5/5/2002	12 MO M	PT'S MOTHER STATES CHILD DROPPED BOTTLE SHE WENT TO GET IT, WHEN SHE RE TURNED WAS NEXT TO GASOLINE CAN, SMELLED OF GAS, POISON CONTROL CALLED	1	85	68	910	**981**
17	20537497	5/14/2002	3 YR M	POSSIBLY INGESTED AND SPLASHED GASOLINE IN FACE FROM GAS CAN	1	85	68	**981**	910
18	20614238	5/30/2002	21 MO M	PT POSSIBLY INGESTED GASOLINE WHEN MOTHER FOUND HIM WITH OPEN GAS CAN.	1	85	68	910	**981**
19	30732762	6/13/2003	21 MO M	HYDROCARBON EXPOSURE, POSSIBLY DRANK GASOLINE FROM CAN 30 MINUTES PTA, GASOLINE USED FOR PAINT THINNER	1	85	68	910	**981**
20	30739516	7/13/2003	4 YR M	INGESTED GASOLINE FROM GAS CAN.	1	85	68	910	**981**

21	30834469	8/6/2003	16 MO M	POSSIBLE GASOLINE INGESTION ; PICKED UP CONTAINER OF GASOLINE - UNKNOWN IF INGESTED ANY. D: NO DX; LEFT WITHOUT BEING SEEN	6	85	68	910	***1141***
22	30830661	8/13/2003	16 MO M	GASOLINE INGESTION - LEFT UNATTENDED WITH A GAS CAN	1	85	68	**981**	
23	30900138	8/29/2003	3 YR F	STATES GAS CAN WAS SITTING ON FRONT PORCH AND PT POURED SOME GAS INTO S AND BUCKET AND DRANK IT. DX. HYDROCARBON INGESTION.	1	85	68	910	1817
24	31140892	11/15/2003	2 YR M	VOMITING - POSSIBLY INHALED GASOLINE - WAS FOUND PLAYING WITH GAS CAN I N LAUNDRY ROOM POURING GAS ONTO FLOOR. D: NO DX; LWBS	6	85	68	1807	910
25	40505522	5/2/2004	2 YR M	MOM STATED PATIENT TRIED TO DRINK GASOLINE FROM A CAN AT HOME. DX- HYDROCARDON INHALATION.	1	85	68	910	**981**
26	40847059	8/23/2004	2 YR F	PT ACCIDENTLY INGESTED GASOLINE, SHE WAS SUCKING ON A GASOLINE CAP OF C AN, SUSTAINED " GASOIINE EXPOSURE"	1	85	68	910	980
27	41029033	10/9/2004	2 YR M	MOM FOUND PT IN YARD POURING OUT A CAN OF GASOLINE. UNSURE IF INGESTED . NO GAS ODOR ON PT. NO SYMPTOMS. LEFT ER BEFORE SEEN.	6	85	68	910	**981**
28	50117949	1/1/2005	21 MO M	PT DRANK GASOLINE FROM A CAN THAT WAS IN THE GARAGE AT HOME STARTED COU GHING POISONING	1	85	68	910	**981**
29	50617421	6/3/2005	2 YR F	PT FOUND WITH GASOLINE CAN SPILLED ? INGESTION GASOLINE INGESTION	1	85	68	910	**981**
30	50820197	8/1/2005	2 YR M	PT GRABBED A GAS CAN AT HOME AND GAS SPLASHED IN FACE STARTED COUGHING POSSIBLE REACTION TO GASOLINE	6	85	68	910	**981**
31	51209968	11/25/2005	2 YR M	PT TRIPPED AND FELL KNOCKING OVER CAN OF GAS; GAS SPLASHED ON FACE. D: ACCIDENTAL INGESTION - INHALATION	1	85	68	910	**981**
32	60311524	3/1/2006	2 YR F	GASOLINE EXPOSURE- FOUND IN YARD, SPILLED 1-2 GAL CONTAINER OF GAS ON SE LF, GAS WASHED OFF BODY & OUT OF EYES, SLIGHT CONGESTED BREATH SOUNDS	1	85	68	910	
33	60949576	9/19/2006	4 YR M	MOM THINKS PULLED GAS CAN ONTO SELF, SMELLS STRONG OF GAS, CLOTHING REM OVED & PT DECONTAMINATED/OBSERVE D 1-1/2 HRS & DISCH, NO ABNORMALITIES	1	85	68	910	**981**

34	70526349	5/4/2007	2 YR M	MOM FOUND PT W/GALLON CONTAINER OF GASOLINE SUCKING OUT OF THE CONTAINE R, UNKNOWN HOW MUCH, NO SYMPTOMS DURING OBSERVATION PERIOD	5	85	68	910	***1141***
35	70910424	8/18/2007	2 YR M	PT HAD GAS CAN NOZZLE IN MOUTH & SWALLOWED GASOLINE. DX: GASOLINE INGESTION.	1	85	68	910	**981**
36	71052995	9/25/2007	20 MO F	PT FOUND WITH GASOLINE CAN IN MOUTH, SMELLED LIKE GAS, WATERY EYES, INI TIAL GAGGING; LEFT AGAINST MEDICAL ADVICE	6	85	68	910	**981**
37	71123045	11/7/2007	2 YR M	ACCIDENTAL GASOLINE INGESTION-DRANK SWALLOW OF GAS FROM A CONTAINER	1	85	68	910	**981**
38	80514077	4/13/2008	21 MO F	INGESTED GASOLINE FROM GAS CAN	1	85	68	910	**981**
39	90213232	1/8/2009	2 YR F	INGESTED GASOLINE, HAD GAS ON BREATH, GAS BOTTLE EMPTY;DX POISONING	1	85	68	910	**981**
40	90334744	3/17/2009	11 MO M	PT PLAYING OUTSIDE W/ COUSINS. MOM FOUND PT W/ MOUTH ON GASOLINE CAN. S MELLED LIKE GASOLINE. NO SYMPTOMS. DX GASOLINE INGESTION	1	85	68	910	**981**
41	100135803	1/13/2010	2 YR M	2YOM WAS FOUND IN A SHED WITH THE SPOUT OF A FULL GASOLINE CAN IN MOUT H THEN STARTED TO COUGH POISONING	1	85	68	910	**981**
42	100833753	5/23/2010	2 YR M	2YOM FOUND STICKING FINGERS IN GASOLINE CAN WHEN PLAYING OUTSIDE, THEN SUCKING ON FINGERS AT HOME; POISONING	5	85	68	910	**981**
43	101042212	10/15/2010	2 YR M	2YOM-? GASOLINE INGESTION-FOUND W/ GAS CAN IN MOUTH-@ HOME	1	85	68	910	**981**
44	110100227	12/30/2010	4 YR F	4YOF AT GRANDMOTHERS HOUSE DRINKING GASOLINE FROM A GAS CAN POISONING	1	85	68	910	980

Source National Electronic Injury Surveillance System (NEISS), January 2012

Table A8. Other Nonfire Gasoline Exposure Injuries (Besides Ingestion) Attributed to Children Younger than 5 Interacting with Portable Gasoline Containers 1999–2010

count	nek	dt_trmt	Age/Sex	narrative	disp	bdpt	diag	prod 1	prod 2
45	990407171	3/31/1999	4 YR M	4 YR MALE SUSTAINED CHEMICAL CONJUNCTIVITIS WHEN KICKED GAS CAN AN D GAS SPLASHED IN EYE	1	77	74	910	**981**
46	990418960	4/13/1999	2 YR F	2 YR FEMALE IRRITATED SKIN ON FACE WHEN IN GARATGE AND SPILLED GAS OLINE FROM CONTAINER.	1	76	74	910	**981**

47	10717187	7/3/2001	3 YR M	CHEMICAL INSULT EYE, CORNEAL ABRASION - GASOLINE SPRAYED INTO EYE FROM CONTAINER WHILE HELPING MOM AT THE GAS STATION	1	77	49	910	**981**
48	10949625	9/22/2001	2 YR F	CLIMBING ON RIDING MOWER TURNED OVER CAN OF GASOLINE DX. CONJUNCTI VITIS	1	77	74	1422	910
49	40801411	6/3/2004	21 MO M	PATIENT PICKED UP GAS CAN WHEN PLAYING, DROPPED CAN AND SPLASHED GAS ON FACE, FACE FLUSHED AT HOME; GASOLINE EXPOSURE	1	76	71	910	**981**
50	40962934	9/28/2004	18 MO M	POKED A HOLE IN A GAS CAN THAT WAS SITTING IN FRONT OF HOUSE, GOT GAS I N EYE. DX; CHEMICAL CONJUNCTIVITIS EYES.	1	77	74	910	**1107**
51	41133854	11/11/2004	2 YR F	PT. POURED GASOLINE ON HER NECK & CHEST, FROM A CAN THAT WAS IN HOME, PT. SAYS SKIN HURTS. DX: GASOLINE EXPOSURE TO SKIN, NO INGESTION	1	31	71	910	**981**
52	80955415	9/24/2008	3 YR M	CONJUNCTIVITIS (CHEMICAL) OF RIGHT EYE - CHILD FOUND WITH GAS CAN WITH GAS SMELL ON HANDS, CHILD COMPLAINING OF EYE HURTING.	1	77	74	**981**	
53	100449203	4/17/2010	4 YR M	4 YO M PLAYING WITH GASOLINE CAN ON PORCH, GOT GAS ON HANDS, CRYING NOW . DX CHEMICAL DERMATITIS	1	82	74	910	**981**
54	100849053	8/4/2010	2 YR F	2YOF- PT WAS LOOKING INSIDE A GAS CONTAINER TO SEE WHAT COLOR THE GAS WAS, WHEN GAS SPLASHED INTO HIS EYES. DX GAS EXPOSURE.	1	77	71	910	**981**

Source National Electronic Injury Surveillance System (NEISS), January 2012

Table A9. Nonfire Gasoline Exposure Injuries Attributed to Children Younger than 5 Interacting with Portable Gasoline Containers in Year 2011

count	Nek	dt_trmt	Age/Sex	narrative	disp	bdpt	diag	prod 1	prod 2
1	110732216	7/7/2011	2 YR M	2 YOM PUT GAS SIPHON UP TO MOUTH AND NOW HAS GAS ALL OVER SHIRT. DX; S USPECTED GAS INJESTION	5	85	68	910	**981**
2	110859423	8/22/2011	2 YR M	2YOM GASOLINE INGESTION WHEN GOT HOLD OF GAS CAN AND POURED GAS ON SELF	1	85	68	910	**981**
3	111208894	11/29/2011	10 MO M	10 MOS M PT GRABBED GASOLINE CAN AND SPLASHED GASOLINE INTO HIS EYE. DX CORNEAL ABRASION RT EYE	1	77	53	910	

*Source National Electronic Injury Surveillance System (NEISS), **May** 2012*

Table A10. NEISS Injuries Without Fire or Gasoline Exposure Attributed to Children Younger than 5 Interacting with Portable Gasoline Containers from 1999–2011

count	nek	dt_trmt	Age/Sex	narrative	disp	bdpt	diag	prod 1	prod 2
1	10535189	5/15/2001	3 YO F	HIT BY A GAS CAN HANGING ON ROPE DX. SCALP LAC	1	75	59	**981**	852
2	11119319	11/3/2001	2 YO M	PT RECEIVED CONTUSION TO HAND WHEN RAN INTO A GAS TANK CAN AT HOME.	1	82	53	980	
3	21126327	11/9/2002	2 YO M	PT PULLED A PARTIALLY FILLED GAS CAN OFF A SHELF AT HOME STRIKING HIM I N THE FACE LACERATION FACE	1	76	59	4056	**981**

Source National Electronic Injury Surveillance System (NEISS), ***May*** *2012*
Note It so happens that all three cases occurred in 2001 or 2002. As might be expected these injuries from child interaction with gas cans without gasoline exposure involved laceration or contusion from impact with the gas can.

Table A11. Other Product Codes Observed (prod1 or prod2)

prod1, prod2	Title
0852	Rope or string (excluding mountain climbing or jump ropes and kite strings)
1107*	Other containers (excluding vacuum or pressurized containers)
1141*	Containers, not specified
1414	Garden hoses, nozzles or sprinklers
1422	Riding power lawn mowers
1807	Floors or flooring materials
1817	Porches, balconies, open-side floors or floor openings
4056	Cabinets, racks, room dividers and shelves, not elsewhere classified
4057	Tables, not elsewhere classified -> Tables (excl. baby changing tables, billiard or pool tables and television tables or stands)

**Several records listing product codes 1107 and 1141 describing "gasoline containers" were for this assessment regarded as portable gasoline containers based on the language used in the NEISS comments. For comparison records listing beverage or food container related product codes were excluded.*