**EMISSION INVENTORY**

**CATEGORY # 1434**

**PORTABLE FUEL CONTAINER SPILLAGE**

**EMISSIONS**

*Introduction*

Portable fuel containers or “Gas cans”, and gas can spouts are used to refuel off-road engines and equipment (i.e. lawnmowers, chainsaws, motorcycles, etc.). Portable fuel containers are made of either plastic or metal in variety shapes and sizes ranging from one to more than six gallons capacity. Portable fuel containers are designed for transportation, storing and dispensing fuel. The California Air Resource Board (CARB) regulates all portable fuel containers manufactured for sale and use in 2000. The regulations are intended to reduce refueling emissions from equipment and engines in the off-road categories that are predominantly refueled with portable fuel containers. The Mobile Source Control Division (MSCD) of CARB conducted surveys to establish the number of statewide portable fuel container population in 1998. These surveys show that there are 9,878,706 portable fuel container units statewide. The data also indicate that 94% of portable fuel containers are used in residential households, and 6% for commercial use. Therefore, the effect of the statewide regulations on commercial users (i.e., tree trimming services, landscape maintenance professionals, automobile tow services, etc.) would be insignificant. Using total container population and an average useful life of 5 years suggested by several manufacturers, ARB estimates the total sales of all portable fuel containers statewide.

*Methodology*

This category accounts for evaporative emissions resulting in spillage from refueling, transport and storage of the portable fuel containers. These portable containers contribute emissions by:

* permeation of vapors through walls in containers made from plastic;
* escaping fumes while fuel is being poured into equipment;
* spillage and/or over-filling as fuel is being poured into equipment;
* spillage and evaporation through secondary vent holes; and
* evaporation through inadequately capped spouts.

CARB estimates 3.57 tons of uncontrolled ROG emissions per day statewide from portable fuel containers in 2011.

*Monthly Variation*

Monthly variation of emissions was based on the monthly California taxable gasoline data from the Board of Equalization.

*County Distribution*

County household population from ABAG’s 2009 Projections was used to distribute emissions for each county.

**TRENDS**

*History*

The MSCD survey indicated that 1,975,741 units of residential and commercial portable fuel container were sold in 1998. Assumed 20 percent of these units are sold in the Bay Area. This figure was derived from Bay Area household population compared to statewide data. CARB has grouped the various sizes of portable fuel containers into three categories as shown in Table 1.

## Table 1 – 1998 Statewide Residential and Commercial Sales Data

|  |  |
| --- | --- |
| Container Sizes (gallons) | Annual Unit Statewide Sales |
| 1 - 1.5 | 773,930 |
| 2 - 2.5 | 704,137 |
| 5 – 6 | 497,674 |
| Total | 1,975,741 |

*Growth*

## ARB projected ROG emissions from portable fuel containers are listed in the data section.

#### Control

On September 11, 2000, CARB regulated all portable fuel containers manufactured for sale and use in California. This regulation required all portable containers and spouts to have an automatic shut-off feature to prevent overfilling of power equipment fuel tanks. The spouts should also have an automatic closing feature so the portable fuel container would be sealed when not in use. This gas can regulation prevented spills during equipment fueling and evaporation during fuel storage. CARB estimated an overall reduction of 3 tons per day (approximately 30 percent compared to previous estimates) in ROG emissions if this regulation was fully implemented by 2005.

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Base Year 2011

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