

# "Name" (user input) Report

## Sample information

Sample identifying name: Name (user input)

Date sample was taken: 2/23/2012 (user input)

Location sample was taken: 4200 Hudson, 3400 Fulton Shreveport, LA (user input)

Report date: 10/22/2012 (autofill)

Report input units:  $\mu\text{g}/\text{m}^3$ \*

Report output units: ppb\*

Report web location: <http://air-toxics.dreamhosters.com/locform2.html>

## \*Unit information

Parts per billion (ppb) describes how many weighed parts of a chemical there are for 1 billion parts of air. For example, a recipe says to add a just a drop of vanilla for every 100 pounds of flour. The drop of vanilla weighs hardly anything, but it has a big effect on the cookies' flavor. Similarly, if we measure benzene in the air, we might find 3 "drops" of benzene for 1,000,000,000 (billion) "drops" of air. It seems like a small amount, but it is significant.

Parts per billion *by volume*, or ppbv, means the concentration has been figured out in terms of how much space the molecules take up. For example, if we make a mixture of 3 cups of vanilla and 1 billion cups of flour, then our concentration is 3 parts volume (cups of vanilla) per billion parts volume (cups of flour), or 3ppbv sugar in flour. When 3 volumes of benzene are in a billion volumes of air, the concentration is 3ppbv benzene in air.

Micrograms per meters cubed ( $\mu\text{g}/\text{m}^3$ ) describes how much of a chemical's weight is in a volume of air that takes up one cubic meter. Imagine an empty box that is three feet long on both sides, and three feet tall. One meter is about three feet long. So the box's volume is 1 cubic meter, or  $1 \text{ m}^3$ . A microgram ( $\mu\text{g}$ ) is a very small weight, like that of a grain of sand. You put 3 grains of sand into the box. The concentration of sand inside the box is 3  $\mu\text{g}$  divided by the volume of the box  $1 \text{ m}^3$ , or  $3 \mu\text{g} / \text{m}^3$ . Like grains of sand, chemicals can also be reported by weight and volume. For example, a monitor might read  $5 \mu\text{g} / \text{m}^3$  benzene, or 5  $\mu\text{g}$  of benzene in  $1 \text{ m}^3$  of air.



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## Sample analysis

The information below is provided to guide discussion on how exposure to chemicals can affect you, your family, and your community. This information is paraphrased from the ATSDR "ToxFAQs" website available at [www.atsdr.cdc.gov/sustances/index.asp](http://www.atsdr.cdc.gov/sustances/index.asp).

- **Hydrogen Sulfide**

Hydrogen sulfide occurs naturally and is also produced by human activities. Low, long-term exposure can cause eye irritation, headache, and fatigue. Exposure to high levels can be fatal.

The level in your bucket sample		Comparison Level
6.27 ppb	<i>is over 7 times</i>	The EPA Region 6 Screening Level 0.835 ppb
6.27 ppb	does not exceed	The Louisiana 8-hr Standard 275 ppb

- **Methylene Chloride**

Exposure to methylene chloride occurs mostly from breathing contaminated air. Breathing in large amounts of methylene chloride can damage the central nervous system. Contact of eyes or skin with methylene chloride can result in burns.

The level in your bucket sample		Comparison Level
164 ppb	<i>is about 48 times</i>	The EPA Region 6 Screening Level 3.42 ppb
164 ppb	does not exceed	The Louisiana 24-hr Standards 178 ppb

- **Carbon Disulfide**

Breathing very high levels can be life threatening because of its effects on the nervous system. Breathing low levels for long periods may result in headaches, tiredness, trouble sleeping, and slight changes in the nervous system.

The level in your bucket sample		Comparison Level
6.87 ppb	does not exceed	The EPA Region 6 Screening Level _(autofill)_ ppb
6.87 ppb	does not exceed	The Louisiana 8-hr Standards 59.6 ppb

- **Propene**

Heath effects from propene are not available from the ATSDR ToxFAQs website.

The level in your bucket sample		Comparison Level
10.5 ppb	does not exceed	The EPA Region 6 Screening Level _(autofill)_ ppb

- **FALSECHEMICAL**

Heath effects from FALSECHEMICAL are not available from the ATSDR ToxFAQs website.

The level in your bucket sample		Comparison Level
262 ppb		A comparison level does not exist for FALSECHEMICAL



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## Sample screening levels:

Some government agencies have developed standards and screening levels for toxic chemicals in the air based on health information about the chemicals. There is no information available for some toxic chemicals. The agencies are listed below, with a brief description of the methods used in establishing their levels. States may not be required to adhere to national standards.

- **EPA Region 6 Screening Levels**

[http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-n/screen.htm](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-n/screen.htm)

These levels are based on existing studies of chemical health effects. They levels are calculated for residential (as opposed to workplace) exposures. They reflect the *risks* of exposure to a certain level of the chemical. The levels listed as screening levels correspond to pre-determined levels of risk from exposure: either 1 in a million cancer risk or a "hazard quotient" of 1 for non-cancer effects, whichever corresponds to a lower concentration. These screening levels are not legally enforceable.

- **Louisiana Ambient Air Quality Standards**

<http://www.deq.louisiana.gov/portal/tabid/1674/Default.aspx>

These levels are legally enforceable standards in Louisiana, developed through Louisiana's regulatory process. They are found in Table 51.2 of Title 33, Part III.

They are based on health effects information about the chemicals: the eight-hour standard modifies occupational exposure levels to be appropriate for residential exposures; the annual standard is based on EPA procedures for calculating cancer risks.