



The Reportable Quantity (RQ)•Calculator

A Tool for Evaluating the Release
of Hazardous Substances



SYNOPSIS

The Reportable Quantity (RQ)•Calculator <http://homer.ornl.gov/rq> is an assistance tool that provides DOE and its contractors with an efficient and user-friendly way to determine compliance with applicable reporting requirements for releases of hazardous substances to the environment. The tool helps to expedite the determination of whether an RQ was exceeded and provides contact information for reporting releases to the appropriate regulatory authorities.

This Information Brief summarizes:

- The Purpose of the RQ•Calculator;
- Features of the RQ•Calculator Version 2.0;
- How the RQ•Calculator Determines Releases;
- Examples of How to Use the RQ•Calculator;
- Notification Requirements;
- Access by Handheld Devices;
- Contact Information for Assistance; and
- Additional Resources.

WHAT IS THE PURPOSE OF THE RQ•CALCULATOR ?

Anyone who handles hazardous substances or extremely hazardous substances is subject to both the spill reporting requirements of section 103(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and section 302(a)(2) of the Emergency Planning and Community Right-to-Know Act (EPCRA).

Anytime a release of a hazardous substance or an extremely hazardous substance to the environment occurs in an amount equal to or exceeding its reportable quantity (RQ) within a 24-hour period, the release must be reported to the proper authorities (40 CFR 302).

Responsive spill reporting involves determining how much material has been released in a 24-hour period, calculating if that amount exceeds its RQ, and reporting this information to the appropriate authorities in a timely manner (see <http://homer.ornl.gov/rq/regulations.cfm> for more information on reporting requirements). The Department of Energy's (DOE) Office of Nuclear Safety and Environment developed the RQ•Calculator to assist DOE and its contractors in addressing this need.

WHAT ARE THE FEATURES OF THE REVISED RQ•CALCULATOR VERSION 2.0?

The RQ•Calculator (<http://homer.ornl.gov/rq>) is a web-based tool first developed in 1998 to assist DOE in meeting these spill reporting requirements. Version 2.0 of the RQ•Calculator contains an up-to-date listing of approximately 2,000 RQ values for hazardous and extremely hazardous substances (including radionuclides) and their Chemical Abstract Service (CAS) numbers. Using its data base of 9,000 commonly used chemical names, even if a substance is misspelled, the RQ•Calculator will provide a list of possible alternatives.

The RQ•Calculator web site provides up-to-date:

- DOE and Environmental Protection Agency (EPA) RQ guidance;
- applicable Federal regulations;
- identification of state contact information (by clicking on "Identify a Contact") and,
- profiles for the hazardous chemicals being evaluated.

A new feature is the ability to access the RQ•Calculator in real-time at the scene of the release with a mobile device such a Blackberry, Blazer, Palm Pilot, or Pocket PC.

HOW DOES THE RQ•CALCULATOR DETERMINE RELEASES?

The RQ•Calculator determines the amount of a hazardous substance released based on its rate of release during a 24-hour period. For hazardous substances in a mixture, the RQ•Calculator uses the mass of the hazardous substance in the mixture released over a 24-hour period to determine the amount of the reportable substance that has been released.

HOW DO I USE THE RQ•CALCULATOR?

A step-by-step example of the process showing RQ•Calculator input screens and results is provided below.

Step 1.

Input the name of the hazardous substance (e.g., acetone) or the CAS number (e.g., 67641) in the field provided at the top of the RQ•Calculator input screen then click 'Continue' (Figure 1).

Figure 1

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#) You are Here: [DOE > HSS > NuclearSafety > Environment](#)

RQ-Calculator

v.2.0
Mobile Version

Hazardous Substance:

Welcome to DOE's RQ-Calculator v.2.0 for both desktops and mobile devices. Enter the name of a hazardous substance or its Chemical Abstract Service (CAS) number in the field above to look up its Reportable Quantity (RQ) or to evaluate whether a release to the environment must be reported to the National Response Center. If you misspell the name of the substance, the RQ-Calculator will return a list of possible alternatives.

For more information on the regulations, who to contact, and how the RQ-Calculator works, click on one of the following:

- Overview of the requirements
- Contact information
- 40 CFR 302 & 40 CFR 355
- How the RQ-Calculator works
- DOE RQ guidance
- EPA's RQ page

Please see our [disclaimer](#) before using the results of the RQ-Calculator in making reporting decisions.

Step 2.

From the results displayed, select the hazardous substance from the table (e.g., acetone) (Figure 2).

Figure 2

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#) You are Here: [DOE > HSS > NuclearSafety > Environment](#)

RQ-Calculator

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We found an exact match for "acetone".

The results include only one Non-Radioactive match.

Select substance name to evaluate a release.

Non-radioactive substances (1 item)

Substance	CAS no.	Type*	RQ (lbs.)
Acetone	67641	HS	5000

* HS = CERCLA Hazardous Substance subject to 40 CFR 302.
EHS = EPCRA Extremely Hazardous Substance subject to 40 CFR 355.

Step 3.

Input the amount of the hazardous substance released (i.e., 6,000) and select the unit (e.g., pounds) from the drop-down menu (Figure 3).

Figure 3

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#) You are Here: [DOE > HSS > NuclearSafety > Environment](#)

RQ-Calculator

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Acetone (CAS No. 67641) is a Hazardous Substance (HS) subject to 40 CFR 302 .

How much "Acetone" was released?

Amount released:

Step 4.

Enter the number of hours for the "Time Period of Release" (e.g., 24) (Figure 4). The RQ value is based on releases during a 24-hour time period. (All calculations are scaled to a 24-hour time period). Next, input the

percent of mixture of the release (percent of hazardous substance in total release by mass, e.g., 100%).

Figure 4

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RQ-Calculator

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Please provide additional information on your release of "Acetone":

Time period of release: hours

Percent of mixture:* %

*Percent of Acetone in the total release (by mass).

Step 5.

The final input screen will give you instructions on how to proceed if the RQ amount is less, the same, or if the amount was exceeded. Also, the RQ-Calculator will provide contact information for the appropriate regulatory authorities. If the amount released is less than the RQ, then only the results of the calculation will be displayed. If the results are the same or more than the RQ, the screen shown below in Figure 5 will appear.

Figure 5

Text size: [Smaller](#) - [Normal](#) - [Larger](#) - [Largest](#) You are Here: [DOE > HSS > NuclearSafety > Environment](#)

RQ-Calculator

v.2.0
Mobile Version

RQ Calculator Results - RQ Exceeded! Call the NRC

You have exceeded the reportable quantity for your release of Acetone.

Your release	Reportable Quantity
6000lbs.	5,000 lbs.

Here's the calculation:

You released 6000 pounds of Acetone over a 24-hour period.

How we calculated a value comparable with the RQ for your released substance:

$$\left(\frac{6000 \text{ lbs.}}{24 \text{ hrs.}}\right) \left(\frac{24 \text{ hrs.}}{1}\right) \left(\frac{100 \text{ lbs.}}{100 \text{ lbs.}}\right) = 6000 \text{ lbs.} \quad \text{Greater than an RQ of 5000 lbs.}$$

your release RQ period percent by mass adjusted release Comparison

What to Do:

Compliance with CERCLA

When a hazardous substance is released into the environment within a 24-hour period in an amount meeting or exceeding its RQ, the *person in charge of the facility* (i.e., generally the Facility Manager) must immediately (i.e., as soon as is practicable) telephone the National Response Center in Washington, DC at 1-800-424-8802 (toll free) or 1-202-426-2675.

When notifying the National Response Center, be prepared to provide the following information (to the extent known), provided that gathering this information does not delay the notice or emergency response. The information includes:

- the location of the release,
- the type of material released,
- the estimated quantity released,
- the time and date of the release, and
- the possible source or sources of the release.

Access EPA's [Envirofacts Warehouse](#) chemical reference information on "Acetone."

Another substance:

WHAT ARE THE NOTIFICATION REQUIREMENTS?

When a hazardous substance is released to the environment within a 24-hour period in an amount meeting or exceeding its RQ, the *person in charge of the facility* (generally the Facility Manager) must immediately (i.e., as soon as is practicable) telephone the National Response Center (NRC) in Washington, DC at **1-800-424-8802** (toll free) or **1-202-426-2675**.

When notifying the NRC, be prepared to provide information (to the extent known) with the stipulation that gathering this information does not delay the notice or an emergency response. Please see EPA's website at: <http://www.epa.gov/superfund/policy/release/rq/index.htm> for more information on notification requirements.

HOW CAN THE RQ•CALCULATOR BE ACCESSED ON A HANDHELD DEVICE?

When accessing the desktop version of the RQ•Calculator with a handheld device at: <http://homer.ornl.gov/rq/> the web site recognizes the hand held device and will automatically switch to the web site for handheld devices at: <http://homer.ornl.gov/rq/mobile>.

If you have a handheld device (Blackberry, Blazer, Palm Pilot, Pocket PC, or other handheld device) and the desktop site does *not* automatically connect to the mobile site, then you can either go to: <http://homer.ornl.gov/rq/mobile>, or if you are on the desktop version then click on "Mobile Version" toward the top of the page.

The homepage text-based version for these devices is displayed at Figure 6. This version of the RQ•Calculator still requires an internet connection from your handheld device.

Figure 6
WHO CAN PROVIDE ADDITIONAL INFORMATION AND ASSISTANCE?

Please contact Jerry DiCerbo at (202) 586-5047 or gerald.dicerbo@hq.doe.gov for assistance and further information.

WHERE CAN I GET ADDITIONAL RESOURCES?

1. [CERCLA Section 103 and EPCRA Section 304 Release Notification Requirements Update.](#)
2. [Reporting Releases of Hazardous Substances Under CERCLA & EPCRA.](#)
3. [CERCLA Reporting Requirements, DOE Occurrence Reporting, and the DOE Emergency Management System.](#)