

HRS Mini Course

# QUICKSCORE DEMO

# Quickscore Website

Superfund: Hazard Ranking System (HRS) Quickscore

On this page:

- [About HRS Quickscore](#)
- [Download instructions](#)
- [Useful links](#)
- [HRS Quickscore resources and contacts](#)

## About HRS Quickscore

HRS Quickscore assists in scoring sites using the HRS. Created by EPA's Office of Superfund Remediation and Technology Innovation (OSRTI), HRS Quickscore is an electronic set of HRS scoresheets that executes site score calculations, intended for use in planning and implementing preliminary data collection efforts according to HRS criteria, as well as documentation records.

HRS Quickscore's key functions include:

- Quick HRS pathway and site score calculations.
- HRS scoresheet preparation and printing.
- Easy identification of HRS data gaps in conceptual site models.

## Useful Links

- [HRS Tools & Resources](#) contains the HRS Guidance, HRS SCDM, and other useful links
- [Superfund Chemical Data Matrix \(SCDM\)](#)
- [Quickscore Version 3.2 Tip Sheet \(PDF\)](#) (6 pp, 201 K, [About PDF](#))

## HRS Quickscore Resources and Contacts

There are no Quickscore training opportunities scheduled at this time. HRS Quickscore includes a Help function to guide the user through using the program.

- [Quickscore Version 3.2 User's Guide](#) (58 pp, 2.9 MB, [About PDF](#))

## For technical Quickscore support, contact:

Quickscore Helpline

Available weekdays, 9:00 - 5:30 EST

Phone: 703-284-6600

Email: [Quickscore Technical Support](mailto:quickscore@gdit.com) (quickscore@gdit.com)

## Quickscore Notifications

Receive notifications of new Quickscore releases:

- [Notifications signup form](#)

<https://www.epa.gov/superfund/superfund-hazard-ranking-system-hrs-quickscore>

# Quickscore Home Page

HRS Quickscore

Quick  
SCORE

Quickscore Home Quickscore Help

Action Toolbar: Save As Import Export Undo Redo Print Calculator

HRS Quickscore

Welcome to Quickscore Version 3.2.2, the Quick Site Assessment and HRS Screening Tool

HRS Quickscore was created by the Office of Superfund Remediation and Technology Innovation (OSRTI) of the U.S. Environmental Protection Agency (EPA) to assist in scoring sites using EPA's Hazard Ranking System (HRS)(<https://www.epa.gov/superfund/introduction-hazard-ranking-system-hrs>). HRS Quickscore is an electronic set of HRS scoresheets that executes real time site score calculations. It was designed to assist in developing a conceptual site model for Superfund site assessments. This product is intended for use by those individuals who plan and implement Preliminary Assessments (PAs), Site Inspections (SIs), and other data collection efforts according to the HRS rules, as well as those individuals that write and review HRS documentation records.

The current product release is **Quickscore Version 3.2.2, dated August 2020**.

This program contains **SCDM values as of Jul 2022**

Please note you need internet access to update SCDM values

No licensing or registration is required to use this software.

The Quickscore User's Guide and other helpful information is available within the Help function of this software and on the HRS Quickscore Web page (<https://www.epa.gov/superfund/superfund-hazard-ranking-system-hrs-quickscore>)

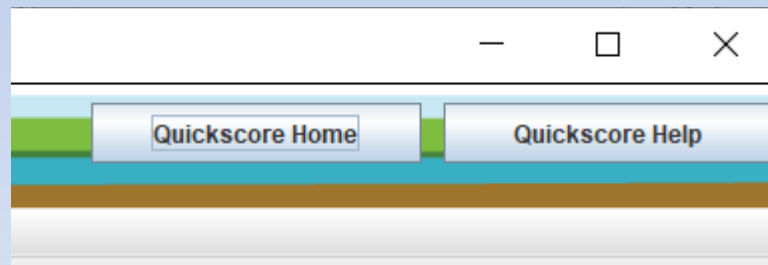
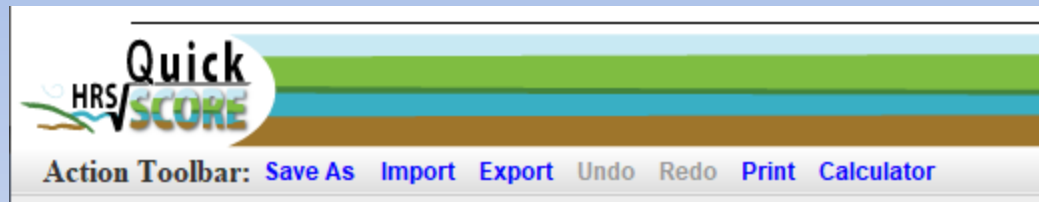
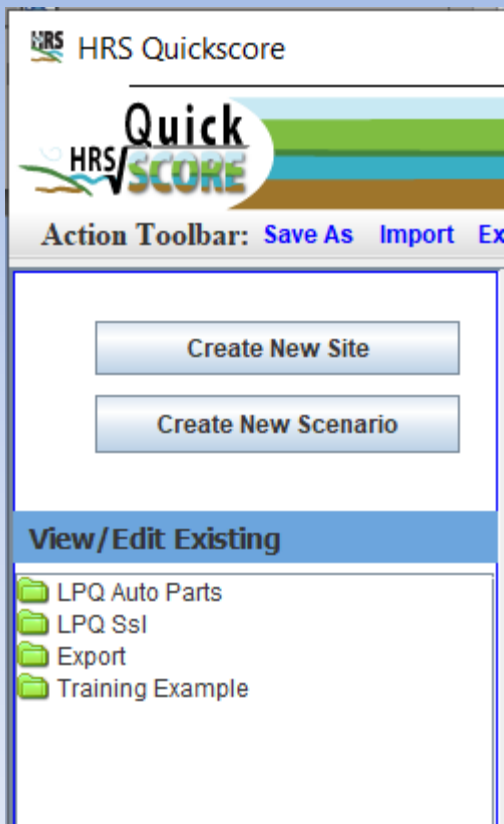
**For technical Quickscore support, contact:**  
Quickscore Helpline  
Available weekdays, 9:00 - 5:30 Eastern Time  
Phone: 703-284-6600  
Email: Quickscore Technical Support ([quickscore@gdit.com](mailto:quickscore@gdit.com))

**DISCLAIMER:** The data and resulting scores rely on the user's understanding and adherence to the rules of the HRS. Use of this product does not guarantee that a package submitted for NPL consideration is either qualified or compliant with the rules of the HRS. All packages and scores are subject to EPA Headquarters for inspection and qualification.

View/Edit Existing

- LPQ Auto Parts
- LPQ Ssl
- Export
- Training Example

# Action Tool Bar and Other Useful Tools



# Help - Users Guide

User's Guide - JWebBrowser

file:///C:/Program%20Files%20(x86)/HRS%20Quickscore%20v3.2.2/files/helpFiles/Users\_Guide.html

User's Guide HRS Rule SCDM

## Users Guide

### 1.1 What is HRS Quickscore?

1.2 Who should use HRS Quickscore?

1.3 What type of equipment do I need to run HRS Quickscore?

1.4 How do I install HRS Quickscore?

1.5 Do I need to register the software before I can begin?

1.6 How do I start HRS Quickscore?

1.7 Who should I contact if I need help using HRS Quickscore?

### 2.0 Getting Around

2.1 How is HRS Quickscore organized?

2.2 What are the screen components?

2.2.1 How do I use the maximize, minimize and exit buttons?

2.2.2 How do I use the Quickscore Home and Quickscore Help buttons?

2.2.3 How do I use the Left-side navigation menu (Create New Site, Create New Scenario, View/Edit Existing files)

2.2.3.1 How do I create a new site?

2.2.3.2 How do I create a new scenario?

2.2.3.3 How do I view and/or edit existing files?

2.2.4 How do I use the Action Toolbar (Save As, Import, Export, Undo, Redo, Print and Calculator)?

### 1.1 What is HRS Quickscore?

HRS Quickscore was created by the Office of Superfund Remediation and Technology Innovation (OSRTI) of the U.S. Environmental Protection Agency (EPA) to assist in scoring sites using EPA's Hazard Ranking System (HRS) (<https://www.epa.gov/superfund/introduction-hazard-ranking-system-hrs>).

HRS Quickscore is an electronic data entry system that executes real time site score calculations. It was designed to assist in developing a conceptual site model for conducting site assessments under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

### 1.2 Who should use HRS Quickscore?

This product is intended for use by those individuals who plan and implement Preliminary Assessments (PAs), Site Inspections (SIs), and other data collection efforts according to the HRS rules, as well as those individuals that write and review HRS documentation records. You should have a basic knowledge of the HRS and the HRS factor values.

### 1.3 What type of equipment do I need to run HRS Quickscore?

HRS Quickscore is designed for a computer running Windows 7 or later versions. Your computer must also have at least 60MB of RAM and 201MB of free space on the hard drive. Installation process may require 280MB of free hard drive space.

### 1.4 How do I install HRS Quickscore?

Step 1: If downloading from a network or internet, identify the drive and directory where HRS Quickscore is located.

Step 2: Locate the HRSQuickscoreV32Installer.exe file in the directory where you downloaded HRS Quickscore.

Name	Status	Date modified	Type	Size
HRS-QuickScore-Installer-3.32.exe		8/7/2020 6:51 PM	Application	76,019 KB

*Figure 1-1: Location of Quickscore Installation file*

# Help - HRS Rule

40 CFR 300 Appendix A Hazard Ranking System Rule - JWebBrowser

File View Print

file:///C:/Program%20Files%20(x86)/HRS%20Quickscore%20v3.2.2/files/helpFiles/HRS\_Rul.html#2.2.1

User's Guide HRS Rule SCDM

40 CFR PART 300  
Appendix A to Part 300 —  
The Hazard Ranking System

1.0. Introduction.

1.1 Definitions.

**2.0 Evaluations Common to Multiple Pathways.**

2.1 Overview.

2.1.1 Calculation of HRS site score.

2.1.2 Calculation of pathway score.

2.1.3 Common evaluations.

2.2 Characterize sources.

2.2.1 Identify sources.

2.2.2 Identify hazardous substances associated with a source.

2.2.3 Identify hazardous substances available to a pathway.

2.3 Likelihood of release.

2.4 Waste characteristics.

2.4.1 Selection of substance potentially posing greatest hazard.

2.4.1.1 Toxicity factor.

2.4.1.2 Hazardous substance selection.

2.4.2 Hazardous waste quantity.

2.4.2.1 Source hazardous waste

**List of Figures with Figure Number**

[3-1](#) Overview of ground water migration pathway.

[3-2](#) Net precipitation factor values.

[4-1](#) Overview of surface water overland/flood migration component.

[4-2](#) Overview of ground water to surface water migration component.

[4-3](#) Sample determination of ground water to surface water angle.

[5-1](#) Overview of soil exposure pathway.

[6-1](#) Overview of air migration pathway.

[6-2](#) Particulate migration potential factor values.

[6-3](#) Particulate mobility factor values.

**List of Tables with Table Number**

[2-1](#) Sample pathway scoresheet.

[2-2](#) Sample source characterization worksheet.

[2-3](#) Observed release criteria for chemical analysis.

[2-4](#) Toxicity factor evaluation.

[2-5](#) Hazardous waste quantity evaluation equations.

[2-6](#) Hazardous waste quantity factor values.

[2-7](#) Waste characteristics factor category values

# Help - SCDM

SCDM Hazardous Substance Factor Values and Benchmarks - JWebBrowser

file:///C:/Program%20Files%20(x86)/HRS%20Quickscore%20v3.2.2/files/helpFiles/SCDM.html

User's Guide HRS Rule SCDM

## SCDM

The Superfund Chemical Data Matrix (SCDM) is a source for factor values and screening concentration benchmarks that can be applied when evaluating potential National Priorities List (NPL) sites using the Hazard Ranking System (HRS).

### Disclaimer

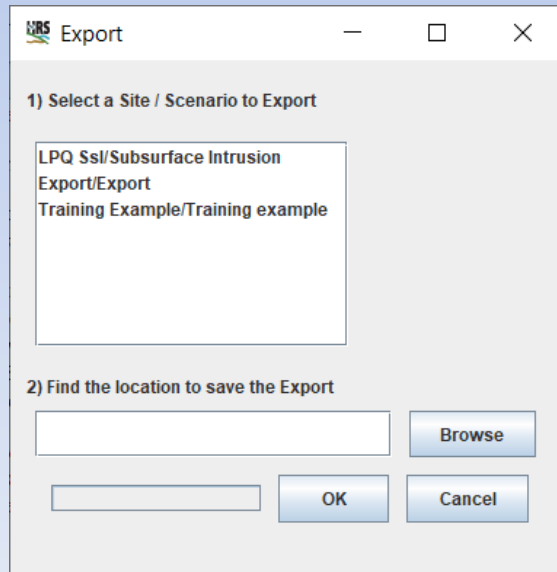
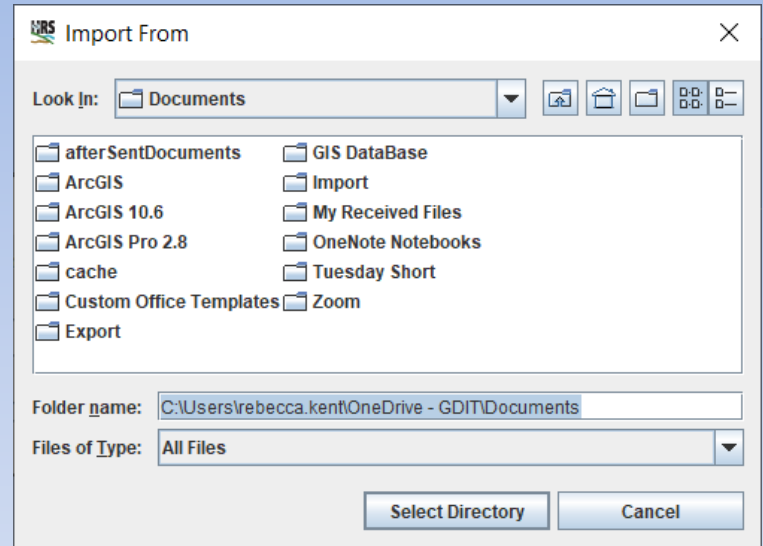
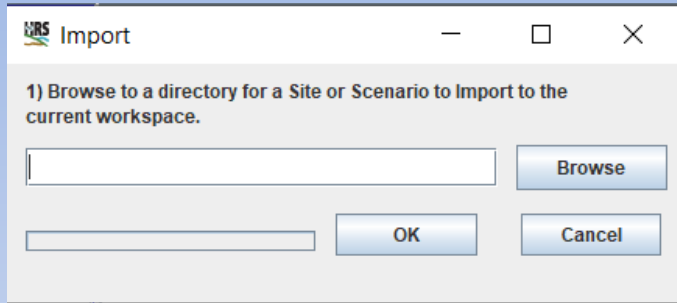
The Superfund Chemical Data Matrix (SCDM) contains factor values and benchmarks used for applying the Hazard Ranking System (HRS) [40 CFR Part 300 Appendix A, 55 FR 51583] to evaluate potential National Priorities List (NPL) sites. The physical, chemical, toxicological and radiological parameters used to calculate the factor values and benchmarks are obtained from references listed in the SCDM Methodology. The references and the data extracted from these references were selected to meet specific HRS requirements and conditions which may not be applicable or representative for other uses. In addition, the parameter values are updated only on an "as needed" basis. As a screening tool, the HRS and SCDM are used for quickly assessing sites at the screening stage and data used to perform this task may not be applicable for other site specific purposes.

The parameter values in SCDM should be used for HRS and NPL purposes only.

Please visit <https://www.epa.gov/superfund/superfund-chemical-data-matrix-scdm> for more information and for the SCDM Methodology report describes how data are selected or calculated for inclusion in SCDM.

Done

# Import and Export Functions





# Printing

Specify Print Criteria

**To print a Final Scoresheet:**

- Check the checkbox on the left for each Scoresheet you would like to print
- To include Scratch Pad notes for a specific Scoresheet, check the box in the "Scratch Pad Notes"

	Site Name/Scenario Name	Scenario Description	Scratch Pad Not..
<input type="checkbox"/>	LPQ Ssl	Subsurface Intrusion	<input type="checkbox"/>
<input type="checkbox"/>	Export	Export	<input type="checkbox"/>
<input type="checkbox"/>	Training Example	Training example	<input type="checkbox"/>

OK Cancel

Specify Print Criteria

**To print a Blank Scoresheet:**

1) Choose a Scoresheet

- Ground Water Scoresheet
- Surface Water/Overland Scoresheet
- Ground Water to Surface Water Scoresheet
- Soil Exposure Scoresheet
- Subsurface Intrusion Scoresheet
- Air Scoresheet

OK Cancel

# Printed Scoresheets

AutoSave (Off) Traini\_Traini0.rtf - Compatibility Mode - Saved Kent, Rebecca J

File Home Insert Draw Design Layout References Mailings Review View Developer Help

Read Mode Print Layout Web Layout Draft Focus Immersive Reader Vertical Side to Side Ruler Gridlines Navigation Pane Zoom 100% One Page Multiple Pages Page Width New Window Arrange All Split View Side by Side Synchronous Scrolling Switch Windows Macros Properties

\*\*\*\* Do Not Cite or Quote \*\*\*\*

Site Name: Training Example Region: Region 8  
 Scenario Name: Training example  
 City, County, State: , Montana Evaluator: Rebecca Kent  
 EPA ID#: Date: 04/03/2023  
 Lat/Long: ", "  
 Congressional District: 01  
 This Scoresheet is for: Pre-CERCLA Screening  
 Scenario Name: Training example  
 Description: Example Site

	S pathway	S <sup>2</sup> pathway
Ground Water Migration Pathway Score (S <sub>gw</sub> )	20.24	409.66
Surface Water Migration Pathway Score (S <sub>sw</sub> )	0.0	0.0
Soil Exposure and Subsurface Intrusion Pathway Score (S <sub>sessi</sub> )	21.22	450.29
Air Migration Score (S <sub>a</sub> )	0.0	0.0
S <sup>2</sup> <sub>gw</sub> + S <sup>2</sup> <sub>sw</sub> + S <sup>2</sup> <sub>s</sub> + S <sup>2</sup> <sub>a</sub>		0.0
(S <sup>2</sup> <sub>gw</sub> + S <sup>2</sup> <sub>sw</sub> + S <sup>2</sup> <sub>s</sub> + S <sup>2</sup> <sub>a</sub> )/4		0.0
		0.0

Page 1 of 9 1919 words Accessibility: Unavailable Display Settings Focus 98%



# Entering Site/Scenario

HRS Quickscore
— □ ×

Quickscore Home
Quickscore Help

Action Toolbar: Save As Import Export Undo Redo Print Calculator

Create New Site

Create New Scenario

View/Edit Existing

- LPQ Auto Parts
- LPQ Ssl
- Export
- Training Example
- Training example
  - Sources
  - Pathways

Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: \*

Scenario Name: \*

Scenario Description:

EPA ID:

State ID:

City/County:

State:

EPA Region:

Congressional District:

Latitude:

Longitude:

Enter Coordinates in Decimal Degrees.  
Format: +xx.xxxx / -xx.xxxx

Score Purpose:

Evaluator Name:

Evaluator Organization:

Date:

\*=Required Field

Your Sites/Scenario	Site Score	Date Last	Location	Description
LPQ Ssl/Subsurface Intrusion	10.24	04/03/2023	Pike County, Ohio	After the addition of the Subsurface...
Export/Export		10/12/2021		/Export
Training Example/Training example	14.66	04/04/2023	Montana	Example Site/Training Example

# Source

HRS Quickscore
— □ ×

[Quickscore Home](#)
[Quickscore Help](#)

Action Toolbar: [Save As](#) [Import](#) [Export](#) [Undo](#) [Redo](#) [Print](#) [Calculator](#)

[Create New Site](#)  
[Create New Scenario](#)

**View/Edit Existing**

- 📁 LPQ Auto Parts
- 📁 LPQ Ssl
- 📁 Export
- 📁 Training Example
  - 📁 Training example
    - 📁 Sources
    - 📁 Pathways

Site/Scenario Information Source Information Pathway Score sheets

**STEP 1**

Site / Scenario Name: Training Example / Training example

Source #:

Source Name:

Source Type:

**STEP 2**

Tier A - Hazardous Constituent Quantity: (2-5)

lbs  Check if Tier A is adequately determined

Tier B - Hazardous Wastestream Quantity:

lbs  Check if Tier B is adequately determined

Tier C - Volume

yd<sup>3</sup>  Check if greater than 0, but unknown

Tier D - Area

ft<sup>2</sup>  Check if greater than 0, but unknown

0.0058823529411764705 : Source Hazardous Waste Quantity (HWQ) ... [Calculate](#)

**STEP 3**

The substances in this source are capable of migrating to which of the following pathways? [2.2.1](#)

Ground Water (GW) Migration Pathway

Surface Water (SW) Migration Pathway

Air Migration Pathway

**STEP 4**

Which substances are associated with this source? [2.2.2](#)

[Associate Substances](#)

Vinyl Chloride

Trichloroethylene

\* = Substance associated with this Site

[Add New Source](#)  
[Delete Source](#)

**STEP 5**

Check this box if you are scoring this source for the Soil Exposure (SE) component.

Source #	Source Name	Source Type	Tier	Source HWQ	GW	SW	Air	SE	AOC Letter
1	Contaminated Soil	Contaminated Soil	D	0.005882352941...	Y	N	N	N	

# Entering a Hazardous Substance

Click on the substances in the table using either the SCDM or User Defined Substances tabs or then use the arrow button to move it to your list of substances. Please note that the SCDM values are based on the date indicated on the Quickscore Homepage. Please check [https://www.epa.gov/superfund/superfund\\_chemical\\_data\\_matrix\\_scdm](https://www.epa.gov/superfund/superfund_chemical_data_matrix_scdm) for the latest information regarding SCDM. Note: Quickscore will automatically check for updates to SCDM. SCDM values can be updated by clicking the "Update SCDM Values" button on the Quickscore homepage.

SCDM User Defined

Associate Substances

Look up by substance name: Acenaphthene (000...)

Look up by CAS Number: 000050-29-3 (DDT)

CAS Num	Chemical Name	Toxicity	Ecotoxicity		
			Fresh	Salt	Liquid/Karst
000083-32-9	Acenaphthene	10	10000	1000	1.00E+00
000208-96-9	Acenaphthylene	1	0	0	1.00E+00
000067-84-1	Acetone	1	100	1	1.00E+00
000107-02-8	Acrolein	10000	1000	1000	1.00E+00
000079-06-1	Acrylamide	1000	10	10	1.00E+00
015972-60-8	Alachlor	100	10000	100	1.00E+00
000309-00-2	Aldrin	10000	10000	10000	1.00E+00
007429-90-5	Aluminum	1000	100	100	1.00E+00
014596-10-2	Americium 241 (radionuclide)	10000	10000	10000	1.00E+00
007440-35-9	Americium	0	0	0	1.00E+00
007664-41-7	Ammonia	10	1000	1000	1.00E+00
000062-53-3	Aniline	1000	10000	10	1.00E+00
000120-12-7	Anthracene	10	10000	10000	1.00E+00
014234-35-6	Antimony 125(+D) (radionuclide)	1000	1000	1000	1.00E+00
007440-36-0	Antimony	10000	1	100	1.00E+00
007440-38-2	Arsenic	10000	10	100	1.00E+00
001332-21-4	Asbestos	10000	0	0	1.00E+00
001912-24-9	Atrazine	1000	10000	10000	1.00E+00
007440-39-3	Barium	1000	1	1	1.00E+00
000056-65-3	Benzo(a)anthracene	100	10000	10000	1.00E+00
000071-43-2	Benzene	1000	1000	1000	1.00E+00
000092-87-5	Benzo(b)fluorene	10000	100	100	1.00E+00
000050-32-8	Benzo(a)pyrene	10000	10000	10000	1.00E+00
000191-24-2	Benzo(g,h,i)perylene	0	0	0	1.00E+00
000206-44-0	Benzo(k)fluorene (Fluoranthene)	100	10000	10000	1.00E+00
000207-08-9	Benzo(k)fluoranthene	10	0	0	1.00E+00
007440-41-7	Beryllium	10000	1000	1000	1.00E+00
000117-81-7	Bis(2-ethylhexyl) phthalate	100	1000	1000	1.00E+00
007440-42-8	Boron	100	0	0	1.00E+00
000075-27-4	Bromodichloromethane	100	10	10	1.00E+00
000085-68-7	Butylbenzyl phthalate	10	1000	1000	1.00E+00

Substance(s) Associated with a Source

Vinyl Chloride  
Trichloroethylene

Substance(s) Associated with this Site, but the specific source cannot be determined  
See HRS Section 2.2.2

Remove from List

Add Substance(s)

# User Defined Substance

Click on the substances in the table using either the SCDM or User Defined Substances tabs or then use the arrow button to move it to your list of substances. Please note that the SCDM values are based on the date indicated on the Quickscore Homepage. Please check <https://www.epa.gov/superfund/superfund-chemical-data-matrix-scdm> for the latest information regarding SCDM. Note: Quickscore will automatically check for updates to SCDM. SCDM values can be updated by clicking the "Update SCDM Values" button on the Quickscore homepage.

SCDM **User Defined**

Add, Edit and Associate User Defined Substances

CAS Num Chemical Name Toxicity Ecotoxicity Fresh Salt Liquid/Karst Liquid/Non-Karst GWMobi

User Defined

Gas Mobility Migration Persistence Lake River Fresh Env Salt Env BioAccu Fres

Save to Table Below

CAS Num	Chemical Name	Toxicity	Ecotoxicity			Liquid/Karst	Liquid/Non-Karst	GWMobi
			Fresh	Salt				
User Defined	(UD) User Defined	1000	10					
User Defined	(UD) Rebecca	10000	100	1000	0.2			

Load To Editor Delete Substance

Substance(s) Associated with a Source

Vinyl Chloride  
Trichloroethylene

Substance(s) Associated with this Site, but the specific source cannot be determined  
See HRS Section 2.2.2

Remove from List  
Add Substance(s)

# Pathway Scoresheet

HRS Quickscore
— □ ×

Quickscore Home
Quickscore Help

Action Toolbar: Save As Import Export Undo Redo Print Calculator

**View/Edit Existing**

- LPQ Auto Parts
- LPQ Ssl
- Export
- Training Example
- Training example
  - Sources
  - Pathways

Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: Training Example
Site Score: 14.66

Scenario Name: Training example

Scenario Summary (14.66)
GW Scoresheet (20.24)
SW Scoresheet (0)
SESSl Scoresheet (21.22)
Air Scoresheet (0)

S pathway

Ground Water Migration Pathway Score (GW)

Surface Water Migration Pathway Score (SW)<sup>c</sup>

Soil Exposure and Subsurface Intrusion Pathway Score (SESSl)

Air Migration Pathway Score (Air)

$20.24^2 + 0^2 + 21.22^2 + \text{Air}^2 =$   
 $(20.24^2 + 0^2 + 21.22^2 + \text{Air}^2) / 4 =$   
 $\sqrt{[(20.24^2 + 0^2 + 21.22^2 + \text{Air}^2) / 4]} =$

Site Score

Scoresheets	Likelihood of Release	Waste Characteristics	Targets	Pathway Score	Date Last Updated
GW Scoresheet	550.0	32.0	94.9	20.24	04/03/2023
SWIOL Scoresheet				0	04/03/2023
Drinking Water	0				
Human Food Chain	0				
Environmental	0				
GW to SW Scoresheet					

## Polling Question #3

What is the minimum HRS score that makes a site eligible to be proposed to the NPL?

- 100.00
- $\geq 28.50$
- 75.00
- 3.14



# Ground Water Pathway

HRS Quickscore
— □ ×

[Quickscore Home](#)
[Quickscore Help](#)

Action Toolbar: [Save As](#) [Import](#) [Export](#) [Undo](#) [Redo](#) [Print](#) [Calculator](#)

Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: Training Example
Site Score: 14.66

Scenario Name: Training example

Scenario Summary (14.66)
GW Scoresheet (20.24)
SW Scoresheet (0)
SESSl Scoresheet (21.22)
Air Scoresheet (0)

**Ground Water Migration Pathway Scoresheet**

**Aquifer Name or Pathway Scenario: \***  **\*\*Required**

**Check to only evaluate this Aquifer in Site Score**

**Likelihood of Release to an Aquifer:**

1. Observed Release

2. Potential to Release

2a. Containment (3-2)

2b. Net Precipitation (3-4)

2c. Depth to Aquifer (3-5)

2d. Travel Time (3-7)

2e. Potential to Release   
[lines 2a x (2b + 2c + 2d)]

3. Likelihood of Release   
[Higher of lines 1 and 2e]

**Waste Characteristics:**

4. Toxicity/Mobility  (3-9)   
Using Substance:

5. Hazardous Waste Quantity (2-6)

6. Waste Characteristics   
[lines 4 x 5, then use Table 2-7]

**Targets:**

7. Nearest Well (3-11)

8. Population

8a. Level I Concentrations  x 10 = 40

8b. Level II Concentrations  x 1 = 3

8c. Potential Contamination  x 0.1 = 1.90  
Use Distance-Weighted Population Table (3-12)

8d. Population [lines 8a+8b+8c]

9. Resources

10. Wellhead Protection Area

11. Targets [7 + 8d + 9 + 10]

**Ground Water Migration Score for an Aquifer**

12. Aquifer Score   
[(lines 3 x 6 x 11)/62,500]

**Ground Water Migration Pathway Score**

13. Pathway Score (Sgw)   
[Highest value from line 12 for all aquifers evaluated]

**Uncapped Score:**

**Check for karst aquifer**

Aquifer Name	Aquifer Score	Used in Site Score
Aquifer 1	20.24	Y

View/Edit Existing

- LPQ Auto Parts
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- Export
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# Mobility

Ground Water Scoresheet - Assign Mobility

1) Choose a Substance

- Trichloroethylene
- Vinyl Chloride

2) Choose a Mobility Type

- Liquid/Karst
- Liquid/Non-Karst
- Non-Liquid/Karst
- Non-Liquid/Non-Karst
- In Observed Release

Save & Return to Scoresheet

Substance	Toxicity	Mobility Type	Mobility Value	Toxicity/Mobility
Trichloroethylene	1000	In Observed Release	1	1000
Vinyl Chloride	10000	In Observed Release	1	10000

# Surface Water Pathway

HRS Quickscore
QuickScore Home
Quickscore Help

**Quick**  
HRS SCORE

Action Toolbar: Save As Import Export Undo Redo Print Calculator

Create New Site

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Create New Scenario

Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: Training Example
Site Score: 14.66

Scenario Name: Training example

Scenario Summary (14.66)
GW Scoresheet (20.24)
SW Scoresheet (0)
SESSI Scoresheet (21.22)
Air Scoresheet (0)

Surface Water/Over Land Scoresheet

Watershed Name: \* Yellowstone \* -Required

Likelihood of Release:

1. Observed Release 0

2. Potential to Release by Overland Flow

2a. Containment (4-2) 0

2b. Runoff (4-6) 0

2c. Distance to Surface Water (4-7) 3

Threats

Drinking Water (0) Human Food Chain (0) Environmental (0)

Waste Characteristics:

6. Toxicity/Persistence (4-12) 0

Using Substance: 0

7. Hazardous Waste Quantity (2-6) 0

8. Waste Characteristics (lines 6 x 7, then use table 2-7) 0

Targets:

9. Nearest Intake (4-13) 0

10. Population

10a. Level I Concentrations 0

Ground Water to Surface Water Scoresheet

Check to only evaluate this Watershed in Site Score

2d. Potential to Release by Overland Flow (lines 2a x (2b+2c)) 0

3. Potential to Release by Flood

3a. Containment (4-8) 0

3b. Flood Frequency (4-9) 0

3c. Potential to Release by Flood (lines 3a x 3b) 0

4. Potential to Release (lines 2d + 3c) 0

5. Likelihood of Release (higher of lines 1 and 4) 0

10b. Level II Concentrations 0

10c. Potential Contamination (Use Division 1 Weighted Population Table (4-14)) 0

10d. Population (lines 10a + 10b + 10c) 0

11. Resources (lines 9 + 10d + 11) 0

12. Targets (lines 9 + 10d + 11) 0

Drinking Water Threat Score

13. Drinking Water Threat Score (lines 5 x 8 x 12)/62,500 0

Uncapped Score: 0

Surface Water Overland/Flood Migration Score for a Watershed

29. Watershed Score (lines 13 + 21 + 28) 0

Surface Water Overland/Flood Migration Score

30. Component Score (SoL) (Highest from line 29 for all watersheds evaluated) 0

Assign Persistence

Add New Watershed

Calculate

Delete Watershed

Watershed Name	Watershed Score	Used in Site Score
Yellowstone	0	N

# Drinking Water threat

Threats		5. Likelihood of Release		0
		[higher of lines 1 and 4]		
<b>Drinking Water (0)</b> <b>Human Food Chain (0)</b> <b>Environmental (0)</b>				
<b>Waste Characteristics:</b>				
6. Toxicity/Persistence (4-12)	<input type="button" value="Assign Persistence"/>	0	10b. Level II Concentrations	<input type="text"/>
Using Substance:	<input type="text"/>		10c. Potential Contamination	<input type="text"/>
7. Hazardous Waste Quantity (2-6)		0	<i>Use Dilution-Weighted Population Table (4-14)</i>	
8. Waste Characteristics (lines 6 x 7, then use table 2-7)		0	10d. Population	0
<b>Targets:</b>			11. Resources [lines 10a + 10b + 10c]	<input type="text" value="0"/>
9. Nearest Intake (4-13)	<input type="text" value="0"/>		12. Targets [lines 9 + 10d + 11]	0
10. Population			<b>Drinking Water Threat Score</b>	
10a. Level I Concentrations	<input type="text"/>		13. Drinking Water Threat Score	0
			<i>[(lines 5 x 8 x 12)/82,500]</i>	
			<b>Uncapped Score:</b>	0
<b>Surface Water Overland/Flood Migration Score for a Watershed</b>			<input type="button" value="Add New Watershed"/> <input type="button" value="Calculate"/>	
29. Watershed Score [lines 13 + 21 + 28]		0		
<b>Surface Water Overland/Flood Migration Score</b>			<input type="button" value="Delete Watershed"/>	
30. Component Score (SoL) (Highest from line 29 for all watersheds evaluated)		0		

Watershed Name	Watershed Score	Used in Site Score
Yellowstone	0	N

# Human Food Chain Threat

Threats (lines 20 + 30) 0

5. Likelihood of Release [higher of lines 1 and 4]

<p>14. Likelihood of Release <span style="float: right;">[Same as line 5] 0</span></p> <p><b>Waste Characteristics:</b></p> <p>15. Toxicity/Persist/Bioaccum <span style="float: right;">(4-16) 0.0</span></p> <p>15a. Tox/Persistence <span style="float: right;">0</span></p> <p style="padding-left: 20px;"><input type="button" value="Assign Persistence/Bioaccum"/></p> <p>Using Substance: <span style="float: right;">(4-12)</span></p> <p>15b. Bioaccumulation Value <span style="float: right;">(4-15) 0.5</span></p> <p>16. Hazardous Waste Quantity <span style="float: right;">(2-6) 0</span></p> <p>17. Waste Characteristics <span style="float: right;">[lines 15a x 16 x 15b, then use table 2-7] 0</span></p> <p><b>Targets:</b></p> <p>18. Food Chain Individual <span style="float: right;">0</span></p>	<p>19. Population <span style="float: right;">(4-18)</span></p> <p>19a. Level I Concentrations <input type="text"/></p> <p>19b. Level II Concentrations <input type="text"/></p> <p>19c. Potential HFC Contamination <input type="text"/></p> <p><i>Use Dilution Weight Table (4-13)</i></p> <p>19d. Population <span style="float: right;">[lines 19a + 19b + 19c] 0</span></p> <p>20. Targets <span style="float: right;">[lines 18 + 19d] 0</span></p> <p><b>Human Food Chain Threat Score</b></p> <p>21. Human Food Chain Threat Score <span style="float: right;">0</span></p> <p style="text-align: right;"><small>[lines 14 x 17 x 20/82,500]</small></p> <p>Uncapped Score: <span style="float: right;">0</span></p>
--	--

**Surface Water Overland/Flood Migration Score for a Watershed**


29. Watershed Score [lines 13 + 21 + 28] 0

**Surface Water Overland/Flood Migration Score**

30. Component Score (SoL) (Highest from line 29 for all watersheds evaluated) 0

Watershed Name	Watershed Score	Used in Site Score
Yellowstone	0	N

# Environmental Threat

Threats		5. Likelihood of Release		0	
		[higher of lines 1 and 4]			
<b>Drinking Water (0)</b> <b>Human Food Chain (0)</b> <b>Environmental (0)</b>					
22. Likelihood of release	[same as line 5]	0	26a. Level I Concentrations	<input type="text"/>	
<b>Waste Characteristics:</b>		0.0	26b. Level II Concentrations	<input type="text"/>	
23. EcoTox/Persist/Bioaccum	(4-21)	0	26c. Potential Contamination	<input type="text"/>	
23a. EcoTox/Persistence	<b>Assign Persistence/Bioaccum</b>		26d. Sensitive Environments	0	
Using Substance:	(4-20)	<input type="text"/>	<small>Use Dilution Weight Table (4-13)</small>		
23b. Ecosystem BAP Value	(4-15)	0.5	<small>(lines 26a + 26b + 26c)</small>		
24. Hazardous Waste Quantity	(2-6)	0	27. Targets	(value from line 26d)	0
25. Waste Characteristics	(lines 23a x 24 x 23b, then use table 2-7)	0	<b>Environmental Threat Score</b>		
<b>Targets:</b>			28. Environmental Threat Score		
26. Sensitive Environments	(4-23) (4-24)		<small>((lines 22 x 25 x 27/82,500)</small>		
			Uncapped Score: 0		
<b>Surface Water Overland/Flood Migration Score for a Watershed</b>			<b>Add New Watershed</b>		<b>Calculate</b>
29. Watershed Score	[lines 13 + 21 + 28]	0			
<b>Surface Water Overland/Flood Migration Score</b>			<b>Delete Watershed</b>		
30. Component Score (Sol)	(Highest from line 29 for all watersheds evaluated)	0			

Watershed Name	Watershed Score	Used in Site Score
Yellowstone	0	N

# Soil Exposure

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**Site/Scenario Information**
Source Information
Pathway Scoresheets

Site Name: Training Example
Site Score: 14.66

Scenario Name: Training example

**Scenario Summary (14.66)**
GW Scoresheet (20.24)
SW Scoresheet (0)
SEssl Scoresheet (21.22)
Air Scoresheet (0)

Soil Exposure Scoresheet
AOC Information
Subsurface Intrusion Scoresheet
AOE Information
ASC Information

Residential population Threat

**Likelihood of Exposure:**

1. Likelihood of Exposure

**Waste Characteristics:**

2. Toxicity

Using Substance:

3. Hazardous Waste Quantity (2-6)

4. Waste Characteristics (lines 2 x 3, then use Table 2-2)

**Targets:**

5. Resident Individual

6. Resident Population:

6a. Level I Concentrations

6b. Level II Concentrations

6c. Resident Population (lines 6a + 6b)

7. Workers (5-4)

8. Resources

9. Terrestrial Sens Environs (5-5)

10. Targets (lines 5 + 6c + 7 + 8 + 9)

**Resident Population Threat Score**

11. Resident/Nearby Population Threat (lines 1 x 4 x 10)

Nearby Population Threat

**Likelihood of Exposure:**

12. Attractiveness/Accessibility (5-6)

13. Areas of Contamination (5-7)

14. Likelihood of Exposure (5-8)

**Waste Characteristics:**

15. Toxicity

Using Substance:

16. Hazardous Waste Quantity (2-6)

17. Waste Characteristics (lines 15 x 16, then use Table 2-2)

**Targets:**

18. Nearby Individual (5-9)

19. Population within 1 mile (Use Distance-Weighted Population Table 5-10)

20. Targets (lines 18 + 19)

**Nearby Population Threat Score**

21. Nearby Population Threat (lines 14 x 17 x 20)

**Soil Exposure Pathway Score**

22. Soil Exposure Pathway Score (Ss) (lines (11 + 21)/82,500)

**Uncapped Score:**

# AOC

HRS Quickscore
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Create New Site

Create New Scenario

Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: Training Example
Site Score: 14.66

Scenario Name: Training example

Scenario Summary (14.66)
GW Scoresheet (20.24)
SW Scoresheet (0)
SE Ssl Scoresheet (21.22)
Air Scoresheet (0)

Soil Exposure Scoresheet
AOC Information
Subsurface Intrusion Scoresheet
AOE Information
ASC Information

**STEP 1**

Site/Scenario Name: Training Example / Training example

AOC Letter #:

AOC Name:

AOC Type:

**STEP 2**

Tier A - Hazardous Constituent Quantity:  
 lbs  Check if Tier A is adequately determined

Tier B - Hazardous Wastestream Quantity:  
 lbs  Check if Tier B is adequately determined

Tier C - Volume  
 yd<sup>3</sup>  Check if greater than 0, but unknown

Tier D - Area  
 ft<sup>2</sup>  Check if greater than 0, but unknown

Calculate

**STEP 3**

Which substances are associated with this AOC?

Associate Substances

Add New AOC  
Delete AOC

AOC Letter	AOC Name	AOC Type	Tier	AOC HWO	Source #

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# Subsurface Intrusion

HRS Quickscore

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Site/Scenario Information   Source Information   Pathway Scoresheets

Site Name: Training Example    Site Score: 14.66  
 Scenario Name: Training example

Scenario Summary (14.66)   GW Scoresheet (20.24)   SW Scoresheet (0)   SESsl Scoresheet (21.22)   Air Scoresheet (0)

Soil Exposure Scoresheet   AOC Information   Subsurface Intrusion Scoresheet   AOE Information   ASC Information

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**Likelihood of Exposure**

1. Observed Exposure: 550

2. Potential for Exposure

2a. Structure Containment (5-12)	1
2b. Depth to Contamination (5-13)	0
2c. Vertical Migration (5-15)	1
2d. Vapor Migration Potentials (5-17)	0

3. Potential for Exposure (lines 2a\*(2b+2c+2d)): 1

4. Likelihood of Exposure (higher of lines 1 or 3): 550

**Waste Characteristics**

5. Toxicity/Degradation: Assign Degradation    10000  
 Using Substance: Vinyl Chloride

6. Hazardous Waste Quantity: 100.0

7. Waste Characteristics: 32

**Targets**

8. Exposed Individual: 50

9. Population

9a. Level I Concentrations	4	x 10 = 40
9b. Level II Concentrations	0	
9c. Population within Area(s) of Subsurface Contamination (Use Table (5-21))	9.50	
9d. Total Population (lines 9a+9b+9c)	49.50	

10. Resources: 0

11. Targets (lines 8 + 9d + 10): 99.50

**Subsurface Intrusion Component Score**

12. Subsurface Intrusion Component (lines 4 x 7 x 11)/62.5000: 21.22

**Soil Exposure and Subsurface Intrusion Pathway Score**

13. Soil Exposure and Subsurface Intrusion Pathway Score (SESsl) 21.22  
 (Soil Exposure Component + Subsurface Intrusion Component)

Uncapped Score: 21.22

Calculate    Delete

# Hazardous Substance

Click on the substances in the table using either the SCDM or User Defined Substances tabs or then use the arrow button to move it to your list of substances. Please note that the SCDM values are based on the date indicated on the Quickscore Homepage. Please check <https://www.epa.gov/superfund/superfund-chemical-data-matrix-scdm> for the latest information regarding SCDM. Note: Quickscore will automatically check for updates to SCDM. SCDM values can be updated by clicking the "Update SCDM Values" button on the Quickscore homepage.

SCDM User Defined

Associate Substances

Look up by substance name:

Look up by CAS Number:

CAS Num	Chemical Name	Toxicity	Ecotoxicity		
			Fresh	Salt	Liquid/Karst
000083-32-9	Acenaphthene	10	10000	1000	1.00E+00
000208-96-8	Acenaphthylene	1	0	0	1.00E+00
000067-64-1	Acetone	1	100	1	1.00E+00
000107-02-8	Acrolein	10000	1000	1000	1.00E+00
000079-06-1	Acrylamide	1000	10	10	1.00E+00
015972-60-8	Alachlor	100	10000	100	1.00E+00
000309-00-2	Aldrin	10000	10000	10000	1.00E+00
007429-90-5	Aluminum	1000	100	100	1.00E+00
014596-10-2	Americium 241 (radionuclide)	10000	10000	10000	1.00E+00
007440-35-9	Americium	0	0	0	1.00E+00
007664-41-7	Ammonia	10	1000	1000	1.00E+00
000062-63-3	Aniline	1000	10000	10	1.00E+00
000120-12-7	Anthracene	10	10000	10000	1.00E+00
014234-35-6	Antimony 125(+D) (radionuclide)	1000	1000	1000	1.00E+00
007440-36-0	Antimony	10000	1	100	1.00E+00
007440-38-2	Arsenic	10000	10	100	1.00E+00
001332-21-4	Asbestos	10000	0	0	1.00E+00
001912-24-9	Atrazine	1000	10000	10000	1.00E+00
007440-39-3	Barium	1000	1	1	1.00E+00
000056-55-3	Benz(a)anthracene	100	10000	10000	1.00E+00
000071-43-2	Benzene	1000	1000	1000	1.00E+00
000092-87-5	Benzidine	10000	100	100	1.00E+00
000050-32-8	Benzo(a)pyrene	10000	10000	10000	1.00E+00
000191-24-2	Benzo(g,h,i)perylene	0	0	0	1.00E+00
000206-44-0	Benzo(k)fluorene (Fluoranthene)	100	10000	10000	1.00E+00
000207-08-9	Benzo(k)fluoranthene	10	0	0	1.00E+00
007440-41-7	Beryllium	10000	1000	1000	1.00E+00

Substance(s) Associated with an AOE

Vinyl Chloride  
Trichloroethylene  
Tetrachloroethylene

Remove from List


Add Substance(s)

# Polling Question #4

How do you update SCDM in Quickscore?

- It is not possible
- Click on the “Update SCDM Values” button on the Quickscore Home screen
- Manually enter the updated values
- Call the Helpline

# Assigning Degradation


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**1) Choose a Substance**

Tetrachloroethylene

Tetrachloroethylene

Tetrachloroethylene

Trichloroethylene

Trichloroethylene

Trichloroethylene

Vinyl Chloride

Vinyl Chloride

Vinyl Chloride

**2) Choose the Most Appropriate Degradation Type**

In Observed Exposure

NAPL is present in the subsurface at a depth less than or equal to 30 feet

Less than 10 feet

10 feet to less than or equal to 30 feet

Greater than 30 feet

Save & Return to Scoresheet

Substance	Volatile?	Degradation Type	Toxicity	Half-Life	Degradation Val...	Toxicity/Degrada...
Tetrachloroethyl...	Yes	Obs. Exposure	100	154.0	1	100.0
Tetrachloroethyl...	Yes	Obs. Exposure	100	154.0	1	100.0
Tetrachloroethyl...	Yes	Obs. Exposure	100	154.0	1	100.0
Trichloroethylene	Yes	Obs. Exposure	1000	171.0	1	1000.0
Trichloroethylene	Yes	Obs. Exposure	1000	171.0	1	1000.0
Trichloroethylene	Yes	Obs. Exposure	1000	171.0	1	1000.0
Vinyl Chloride	Yes	Obs. Exposure	10000	171.0	1	10000.0
Vinyl Chloride	Yes	Obs. Exposure	10000	171.0	1	10000.0
Vinyl Chloride	Yes	Obs. Exposure	10000	171.0	1	10000.0

# AOE

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Site/Scenario Information   Source Information   Pathway Scoresheets

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Scenario Name: Training example

Scenario Summary (14.66)   GW Scoresheet (20.24)   SW Scoresheet (0)   SESsl Scoresheet (21.22)   Air Scoresheet (0)

Soil Exposure Scoresheet   AOC Information   Subsurface Intrusion Scoresheet   AOE Information   ASC Information

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**STEP 1**

Site/Scenario Name: Training Example / Training example

AOE Number:

AOE Name:

**STEP 2**

HWQ Value:  Enter the hazardous waste quantity value for this AOE per [section 5.2.1.2.2 - Hazardous Waste Quantity](#)

343.7 : AOE Hazardous Waste Quantity (HWQ)

**STEP 3**

Which eligible substances are associated with this AOE?

Vinyl Chloride  
Trichloroethylene  
Tetrachloroethylene

AOE Number	AOE Name	AOE HWQ
1	Park Owner Home	343.7
2	Business	947.2

# ASC

HRS Quickscore

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Site/Scenario Information Source Information Pathway Scoresheets

Site Name: Training Example Site Score:  
Scenario Name: Training example

Scenario Summary (14.66) GW Scoresheet (20.24) SW Scoresheet (0) SESsl Scoresheet (21.22) Air Scoresheet (0)

Soil Exposure Scoresheet AOC Information Subsurface Intrusion Scoresheet AOE Information ASC Information

**STEP 1**  
Site/Scenario Name: Training Example / Training example  
ASC Letter:   
ASC Name:

**STEP 2**  
HWQ Value:  
 Enter the hazardous waste quantity value for this ASC per section 5.2.1.2.2 - Hazardous Waste Quantity  
1414.88 : ASC Hazardous Waste Quantity (HWQ)

**STEP 3**  
Which eligible substances are associated with this ASC?  
  
Tetrachloroethylene  
Vinyl Chloride  
Trichloroethylene

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ASC Letter	ASC Name	ASC HWQ
A	Park Homes	1414.88

# Air Pathway

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Site/Scenario Information
Source Information
Pathway Scoresheets

Site Name: Training Example

Scenario Name: Training example

Site Score: 14.66

Scenario Summary (14.66)
GW Scoresheet (20.24)
SW Scoresheet (0)
SESSl Scoresheet (21.22)
Air Scoresheet (0)

### Air Migration Pathway Scoresheet

<b>Likelihood of Release:</b>		<b>Targets:</b>	
1. Observed Release	0	7. Nearest Individual	(6-16) 0
2. Potential to Release		8. Population	
2a. Gas Potential to Release	(6-2)	8a. Level I Concentrations	
2b. Particulate Potential to Release	(6-8)	8b. Level II Concentrations	
2c. Potential to Release	0	8c. Potential Contamination	
3. Likelihood of Release	0	8d. Population <small>[lines 8a+8b+8c]</small>	0
<small>[Higher of lines 1 and 2c]</small>		9. Resources	0
<b>Waste Characteristics:</b>		10 Sensitive Environments	(4-23) (6-18)
4. Toxicity/Mobility	(6-13) 0	10a. Actual Contamination	
Using Substance:		10b. Potential Contamination	
5. Hazardous Waste Quantity	(2-6) 0	10c. Sensitive Environments	0
6. Waste Characteristics	0	<small>[lines 10a+10b]</small>	
<small>[lines 4 x 5, then use Table 2-7]</small>		11. Targets	0
		<b>Air Migration Pathway Score</b>	
		12. Air Pathway Score(Sa)	0
		<small>[[lines 3 x 6 x 11]/82,500]]</small>	
		Uncapped Score:	0

\* 10c. Sensitive Environment value don't have any limits

# Thank You!

Helpline Contact Info:

- <https://www.epa.gov/superfund/superfund-hazard-ranking-system-hrs-quick-score>
- Phone: 703-284-6600
- Email: [quickscore@gdit.com](mailto:quickscore@gdit.com)

