

# Alaska Department of Environmental Conservation

## Underground Storage Tank Program

### Preliminary Risk Evaluation Form

#### Purpose of this form

This form is used only for sites with Underground Storage Tanks that are regulated by AS 46.03.450 (12). The form is based on the "Alaska Hazard Ranking Model" which the Department uses to prioritize its investigation and cleanup efforts. It is used to collect preliminary information on the relative risk a contaminated site may pose to human health and the environment.

#### Explanation of how sites are scored

The box below explains how a site will be scored after the Department receives this form. Note that although the form contains values for "unknown" elements, a minimum combination of the following data elements are needed for adequately distinguishing between sites: toxicity, quantity, air exposure, ground water exposure, and surface water exposure. Also note that scores cannot be calculated in the following instances:

1. If too many data elements are unknown; or,
2. If both the toxicity and the quantity data elements are unknown; or,
3. If all exposure elements are unknown.

#### Scoring procedure for risk evaluation form

The Preliminary Risk Evaluation Form contains 14 different questions. Each question deals with a particular "data element" (shown below) that is considered in scoring the site. The alternatives to each question are assigned a value and then these values are entered into the formulas below to calculate the final score.

Question #	Data Element
1.	Toxicity
2.	Quantity
3.	Release Information
4.	Site Access
5.	Air Exposure
6a.	Population Density (within one mile)
6b.	Population Proximity (500 feet)
7.	Ground Water Usage
8.	Ground Water Exposure
9.	Surface Water Use
10.	Surface Water Exposure
11.	Surface Water Environment
12.	Environmental/Recreational Area
13.	Observed Environmental Impact
14.	Multiple Sources or Contaminants

**Scoring**

**Ranking Score = Substance Factor x (Human Target + Environmental Target)**

**Substance Factor** = (#1) x (#2) x (#3)

**Human Target** = (# 4 + Air Target Population + Adj. Ground water Use + Adj. Surface Water Use)

Air Target Population = ( #5 ) x ( # 6a ) x #(6b)

Adj. Ground Water Use = (#7) x (#8) x (#6a)

Adj. Surface Water Use = (#9) x (#10) x (#6a)

**Environmental Target** = (#11) + (#12)

or, if (#11) + (#12) = 0, use value in (#13)

If there are **multiple contaminants** (answer is "yes" to #14), multiply Ranking Score by 1.2.

(Numbers in parentheses refer to the 14 "data elements" identified above.)

Return completed form to : ADEC Underground Storage Tank Financial Assistance Program  
555 Cordova Street, Anchorage, AK 99501  
Phone (907) 269-7504 FAX (907) 269-7507

# ADEC Underground Storage Tank Program

## Preliminary Risk Evaluation Form

Please type, or print in ink, all the requested information on this page.

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### General Information

Name of Site: \_\_\_\_\_  
Facility ID Number: \_\_\_\_\_  
Tax ID Number: \_\_\_\_\_

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### Applicant:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_

### Facility:

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_

### Owner of Tank (If not same as applicant):

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_

### Owner of Land (If not same as applicant):

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_

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<b>RECKEY</b>

### Preparer:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Firm: \_\_\_\_\_  
Phone: \_\_\_\_\_

Please provide any additional information that may assist in processing the Preliminary Risk Evaluation Form (i.e. directions to the site if it does not have a physical address, uncertainties over how to answer particular questions, etc.). Please use additional pages, if necessary.

# ADEC Underground Storage Tank Program

## Preliminary Risk Evaluation Form

(Values for scoring are in parentheses following each option)

On pages 3-6, please fill in the letter of the correct choice in the box preceding each question.

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1. _____
2. _____
3. _____
4. _____

1. What type of product was released or detected?

If more than one substance is present, use the one that will score the highest substance factor.

- a. Chlorinated solvents, other halogenated hydrocarbons, synthetic chlorinated organic pesticides. (4)
- b. Metals, gasoline, aviation gas, naphtha, non-chlorinated pesticides. (3)
- c. Unknown substances. (2.1)
- d. Diesel fuel, jet fuels, (JP-4, JP-5), kerosene, non-chlorinated phenols, non-chlorinated solvents, crude oil. (2)
- e. Waste lubricating oils, heavy fuel oils (No. 6, etc.), inorganic acids/bases, tar. (1)

2. What quantity of product was released?

- a. < 10 drums or 549 drum or tank gallons, < 500 spilled gallon, < 100 cubic yards or tons, < 100 ft<sup>2</sup>. (1)
- b. 10 - 99 drums or 550 - 5,499 drum or tank gallons, 500 - 9,999 spilled gallons, 100 - 499 cubic yards or tons, 100 - 9,999 ft<sup>2</sup>. (2)
- c. Unknown quantity. (2.1)
- d. 100 - 999 drums or 5,500 - 54,999 drum or tank gallons, 10,000 - 39,999 spilled gallons, 500 - 1,999 cubic yards or tons, 10,000 - 43,559 ft<sup>2</sup>. (3)
- e. ≥ 1,000 drums or ≥ 50,000 drum or tank gallons, ≥ 40,000 spilled gallons, ≥ 2,000 cubic yards or tons, ≥ 1 acre (43,560 ft<sup>2</sup>). (4)

Note: < means "less than" (i.e. 1 < 10, or one is less than ten)  
> means "greater than" (i.e. 10 > 1, or 10 is greater than one)  
≥ means "greater than or equal to" (i.e. 11 ≥ 10, or 11 is greater than or equal to 10)

3. Has a release at the site been documented?

- a. Documented releases indicate contamination due to disposal practices or failure of containment at the site, regardless of quantity. (1)
- b. Containment management practices exist which may pose a significant threat, but there is no documentation of a release. (.5)
- c. An unknown potential for site release exists, or, off-site contamination is not clearly linked to the site. (.2)
- d. There is a documented absence of a release at the site. (.1)

4. How controlled is access to this site?

- a. A school is present within 500 feet, and, site access is partially controlled or uncontrolled, and, wastes are present at the surface. (3)
- b. Access to the site is uncontrolled, and, wastes are present at the surface. (2)
- c. Access to the site is partially controlled, or, surrounding features restrict site access, or, contaminated soil is stockpiled (presumed covered) on site. (1)
- d. There is an underground tank, or, waste is not present at the surface, or, access to the site is completely controlled. (0)

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5.

5. Have contaminants been released to the atmosphere?

- a. A documented release of particulate or gases from the site has been confirmed. (.1)
- b. A release may have occurred at the site based on existing physical evidence, including uncovered stockpiles of excavated soils. (.2)
- c. No significant air releases have been identified at the site and waste management practices indicate no substantial possibility. (.1)

6a.

6a. What is the predominant population density within 1 mile radius?

- a. Urban residential use (in or adjacent to population > 35,000, single family lots < 1/4 acre). (10)
- b. Suburban residential areas (lots 1/4 - 1 acre), or, cities with population between 2,000-35,000, or, industrial/commercial areas. (8)
- c. Villages (< 2,000 people), or, low density housing (one unit per acre), or, low density commercial use, or, few permanent residents, but intensive seasonal use. (5)
- d. Rural use, with some occupied buildings. No villages or associated commercial/industrial areas within 1 mile. (3)
- e. Isolated areas with no population present. (0)

6b.

6b. What is the predominant population in proximity to the site (within 500 feet)?

*(Also count workers at site, residents of military barracks or lodges, and students at a school.)*

- a. Occupied buildings or dwellings present within 500 feet of site. (1)
- b. No occupied buildings within 500 feet. (0.5)

7.

7. What is the ground water usage within 1 mile?

- a. Within a 1 mile radius, a majority of the population is served by municipal wells or other public water supply wells serving > 25 individuals. (1)
- b. Within a 1 mile radius, a majority of the population is served primarily by community or private wells. (.8)
- c. A majority of the population is served by drinking water supplies originating greater than a mile from the site, but other public water supply wells serving more than 25 individuals are located within one mile of the site. (.6)
- d. A majority of the population is served by drinking water supplies that are > 1 mile from the site, or, there are no known wells within one mile, but the possibility of use of ground water as a source of drinking water exists. (.4)
- e. Ground water is not available for drinking water or is not used. (.1)

8.

8. Has there been any documentation of ground water contamination?

- a. Documented contamination of a drinking water supply at the tap exceeds the MCL. (4)
- b. Documented contamination of a drinking water supply at the tap, does not exceed the MCL. (2)
- c. Ground water contamination has been detected but actual contamination at the tap has not been documented. (1)
- d. Ground water contamination is unknown, either at the tap or at the ground water source. (.4)
- e. Ground water is documented to be free of contamination, or, waste and site characteristics indicate a low potential for contamination. (0)

9. \_\_\_\_\_

9. What is the primary use of surface water within 1 mile?

- a. Surface water is used as a drinking water source supplied by intakes within 1 mile of site. Assign this value if surface drinking water supplies within one mile of the site have been abandoned due to site contamination. (1)
- b. Use of surface water as a source of drinking water, from intakes within 1 mile, is unknown, but likely. (.5)
- c. Use of surface water as a source of drinking water is unknown but is unlikely, or, there is no use of surface water as a drinking water source within a 1 mile radius. (.2)

10. \_\_\_\_\_

10. Has surface water been contaminated by a release from the site?

- a. Documented contamination of surface drinking water supply at the tap, exceeds the MCL due to releases of hazardous material from the site. (4)
- b. Documented contamination of surface drinking water supply at the tap does not exceed the MCL. (2)
- c. Surface water contamination has been detected at a drinking water source, but actual contamination of drinking water supply at the tap has not been documented. (1)
- d. Surface water contamination is unknown. (.4)
- e. Surface water is not used as a source of drinking water, or, surface water is documented to be free of contamination, or, site and waste characteristics indicate a low potential for contamination of surface water. (0)

11. \_\_\_\_\_

11. What type of surface water environment exists within 1/4 mile of the site?

- a. Fresh or marine water or wetlands are present within 1/4 mile, and evidence of death or stress to fish or wildlife exists, which is strongly suspected as a result of the presence of hazardous substances. (5)
- b. Fresh or marine waters or wetlands are present within 1/4 mile, and evidence of death or stress to plants exists, which is strongly suspected as a result of the presence of hazardous substances. (3)
- c. Fresh or marine waters or wetlands area are present within 1/4 mile, but there is no evidence of death or stress to fish, wildlife or plants. (2)
- d. No fresh or marine waters or wetlands are present within 1/4 mile. (0)

12. \_\_\_\_\_

12. Is the site in an environmental/recreation area?

- a. The site is in an environmental/recreation area and evidence exists of death or stress to fish or wildlife, which is strongly suspected as a result of the presence of hazardous substances. (5)
- b. The site is an environmental/recreation area and evidence exists of death or stress to plants, which is strongly suspected as a result of the presence of hazardous substances. (3)
- c. The site is in an environmental/recreation area and there is no evidence of death or stress to fish, wildlife, or plants. (2)
- d. The site is not in an environmental /recreation area. (0)

If your answer to both questions 11 and 12 was "d", and, there are documented impacts to the environment which are not within 1/4 mile of surface waters or located within 1/4 mile of an environmental or recreation area, then proceed to questions number 13. Otherwise, skip 13, and proceed to question 14.

13. What are the observed environmental impacts to surface waters not within 1/4 mile, or which are not within environmental/recreational areas?

- a. There is evidence of death or stress to fish or wildlife, which is strongly suspected as a result of the presence of hazardous substances. (5)
- b. There is evidence of death or stress to plant life, which is strongly suspected as a result of the presence of hazardous substances. (3)
- c. There is no evidence of death or stress to wildlife or plant life. (0)

14. Are there multiple sources of contamination present at the site? Yes or No  
(A yes answer will result in the final score being multiplied by 1.2, otherwise there will be no adjustment to the final score.)

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<b>Scores assigned by:</b> _____
<b>Date:</b> _____